

State of Washington REPORT OF EXAMINATION FOR WATER RIGHT APPLICATION G1-28759

File No. G1-28759 WAC Doc ID: 6006393

APPLICATION NUMBER	
G1-28759	
	and the second
SITE ADDRESS (IF DIFFERENT)	
31723 19th Dr. NW	
Stanwood, WA 98292	
	SITE ADDRESS (IF DIFFERENT) 31723 19th Dr. NW

Quantity Authorized for Withdra	awal or Diversion	
DIVERSION RATE	UNITS	ANNUAL QUANTITY (AF/YR)
10	GPM	0.39

Purpose						
	WITHDRA	AWAL OR DIV	ERSION	ANNUAL QU		
PURPOSE	ADDITIVE	NON- ADDITIVE	UNITS	ADDITIVE	NON-ADDITIVE	PERIOD OF USE (mm/dd)
Single Domestic Use	10		GPM	0.39		Continuous

Source Location							
WATERBODY	TRIBUTA	RY TO		C	OUNTY	WATER RESO	URCE INVENTORY AREA
Well				Sno	homish		07
SOURCE FACILITY/DEVICE	PARCEL	TWN	RNG	SEC	QQQ	LATITUDE	LONGITUDE
Well (Well Tag # BAT494)	01075700000200	32N	04E	2	SE	48.282631N	-122.256028W
						Datu	m: WGS84

Place of Use (See Map, Attachment 1)

PARCEL

01075700000200 (Lot 2 of Sun Peak Estates)

LEGAL DESCRIPTION OF AUTHORIZED PLACE OF USE

Parcel 01075700000200 (Lot 2 of Sun Peak Estates) located in Section 2, Township 32N, Range 4E, SE Quarter in Snohomish County.

(see Attachment 2 for a full legal description)

Proposed Works

Development Schedule

The system will consist of a well and water distribution system to one home.

Developinent ochoda				
BEGIN PROJECT	COMPLETE PROJECT	PUT WATER TO FULL USE		
Started	December 31, 2023	December 31, 2028		
Measurement of Wat	er Use			
How often must wate	r use be measured?	Monthly		
How often must wate Department of Ecolog	r use data be reported to the y (Ecology)?	Monthly during the first two years of water use, then Annually		
What volume should be	pe reported?	Total Annual Volume and each monthly volume		
What rate should be r	eported?	Annual Peak Rate of Withdrawal (gpm)		

Provisions

You have demonstrated to Ecology's satisfaction that when your proposed mitigation plan, as conditioned below, is implemented, the proposed withdrawal and use of groundwater from the well on your property will not impair senior water rights, including instream flow rights, or be detrimental to the public interest or welfare. Accordingly, Ecology **approves** the mitigation plan insofar as it relates to the well on your property, as documented in Exhibits B and C to Sundberg Homes, Inc., et al. *Request/Petition for Declaratory Order or alternatively, Approval of Mitigation Plan*, dated November 9, 2012, subject to the following conditions:

1. As the proponent of the mitigation plan insofar as it relates to the well on your property, you are responsible for the ongoing commitments of its implementation as long as you own the property. In the event that the property is sold or transferred, all obligations of this mitigation plan are binding on your successors in interest.

- 2. Your well on lot 2 of Sun Peak Estates shall be deepened to intercept water from the regional Sedimentary Aquifer. Evidence of the well deepening through well logs shall be submitted to Ecology before water from the well can be used.
- 3. Your average water use shall not exceed 350 gallons of water per day in any month.
- 4. You may not use water from the well on your property to water a lawn or garden or for any similar outdoor use, including any other consumptive use, provided that you may use such water outside to wash a car or other vehicle, to wash a dog or other pet that lives in the house, or for other minor, non-consumptive uses of like kind. Except as otherwise provided in this paragraph, the well on your property must only supply the indoor plumbing system. Connection to the outdoor plumbing system, such as exterior faucets or hose bibs, by the well on your property is prohibited, except for a single faucet or hose bib within 25 feet of a driveway or garage entrance. The prohibition on connection to outdoor plumbing in this paragraph shall remain applicable unless and until another lawful approval is obtained for the withdrawal and use of water from the well on your property that allows you to use water from the well for outdoor watering and to connect the well to outdoor plumbing. This condition does not prohibit the use of stand-alone cisterns, rain barrels, or other rainwater catchment systems for outdoor water use or other consumptive use so long as they are solely supplied by captured rooftop rainwater or water that is trucked in from off-site, you provide at least 30 days advance written notice to Ecology of your intent to use such water before commencing such use, including a description of the type and design of the system you intend to use, and you obtain such approvals, if any, as may be legally required for such use. Ecology may monitor your compliance with the provisions in this paragraph through lawful on-site visits and aerial photography, and will investigate reports of non-compliance by third parties. You will provide Ecology with permission to enter Sun Peaks Estates for such purposes.
- 5. All water use shall be measured with a meter at the wellhead that meets the requirements of WAC 173-173-090 and WAC 173-173-100. The meter shall be installed, operated, and maintained in accordance with WAC 173-173-110 and WAC 173-173-120. During the first two years of water use, you shall deliver monthly water use reports to Ecology by the 15th day of the following month. After the first two years of water use, you shall deliver monthly water use reports to Ecology annually on October 31st of each year (for the period from October 1 of the preceding year through September 30 of the current year). If the property is sold or transferred, the new owner shall provide monthly water use reports to Ecology by the 15th day of the following month during the first two years of water use and thereafter shall deliver monthly water use reports to Ecology annually on October 31st of each year (for the period from October 1 of the preceding year through September 30 of the current year). If monthly or annual water use reporting demonstrates a potential violation of condition number 3 above and water use is not required to cease under condition numbers 9 or 10 below, Ecology shall require monthly reporting until it appears that water use has complied with condition number 3 above for at least 24

- consecutive months. Compliance with this provision is subject to inspection by Ecology through lawful on-site visits.
- 6. Your on-site sewage disposal system shall be inspected at a frequency outlined in WAC 246-272A-0270. Copies of the inspection reports shall be provided to Ecology. You will provide Ecology with permission to enter Sun Peaks Estates for such purposes.
- 7. Your sewage disposal shall remain through on-site sewage disposal. If sewage from your property is exported through a sanitary sewer system, the use of water from your well shall cease until an alternative source of mitigation water is found and approved by Ecology.
- 8. Notice of the Sundberg Homes, Inc, et al. Request for Approval of Mitigation Plan shall be incorporated in your property title by recording this Report of Examination in the Snohomish County Auditor's Office. The notice shall include a copy of the Sundberg Homes, Inc, et al. Request for Approval of Mitigation Plan and this Report of Examination.
- 9. Non-compliance with any of these conditions may result in penalties or an administrative order to cease using water per RCW 90.03.600 and 90.03.605.
- 10. Pursuant to WAC 173-503-060(c), if monitoring of this mitigation plan shows the mitigation is not effective, Ecology approval of the mitigation plan shall be suspended and water use shall cease until Ecology approves a new or revised mitigation plan.

The mitigation plan approved for your permit, through this Report of Examination, authorizes only the withdrawal and use of water from the well located on your property, and, except as otherwise provided in condition 4 above, the mitigation plan conditions set forth in this letter apply only to the withdrawal and use of water from that well. All of the mitigation plan conditions set forth in this report shall remain applicable to the withdrawal and use of water from the well located on your property notwithstanding any sale or other transfer or conveyance of the property, unless and until another lawful approval is obtained for the withdrawal and use of water from that well.

Water Use Efficiency

The water right holder is required to maintain efficient water delivery systems and use of up-to-date water conservation practices consistent with RCW 90.03.005.

Proof of Appropriation

The water right holder shall file the notice of Proof of Appropriation of water (under which the certificate of water right is issued) when the permanent distribution system has been constructed and the quantity of water required by the project has been put to full beneficial use. The certificate will reflect the extent of the project perfected within the limitations of the permit.

Elements of a proof inspection may include, as appropriate, the source(s), system instantaneous

REPORT OF EXAMINATION

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G1-28759

capacity, beneficial use(s), annual quantity, place of use, and satisfaction of provisions.

Schedule and Inspections

Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the project location, and to inspect at reasonable times, records of water use, wells, diversions, measuring devices and associated distribution systems for compliance with water law.

Findings of Facts

Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated.

Furthermore, I concur with the investigator and find that: water is available from the source in question; that there will be no impairment of existing rights; that the purpose(s) of use are beneficial; and that there will be no detriment to the public interest or welfare.

Therefore, I ORDER approval of Application No. G1-28759, subject to existing rights and the provisions specified above.

Further, I ORDER that at the time a permit is issued to you under this approval, such permit shall supersede the Department of Ecology's May 1, 2013, letter to you approving your mitigation plan as documented in Exhibits B and C to Sundberg Homes, Inc., et al. *Request/Petition for Declaratory Order or alternatively, Approval of Mitigation Plan*, dated November 9, 2012, and the Department of Ecology's May 1, 2013, letter to you shall be rescinded.

Your Right To Appeal

You have a right to appeal this Order to the Pollution Control Hearing Board (PCHB) within 30 days of the date of receipt of this Order. The appeal process is governed by Chapter 43.21B RCW and Chapter 371-08 WAC. "Date of receipt" is defined in RCW 43.21B.001(2).

To appeal you must do the following within 30 days of the date of receipt of the Order.

- File your appeal and a copy of this Order with the PCHB (see addresses below). Filing means actual receipt by the PCHB during regular business hours.
- Serve a copy of your appeal and this Order on Ecology in paper form by mail or in person. (See addresses below.) E-mail is not accepted.

You must also comply with other applicable requirements in Chapter 43.21B RCW and Chapter 371-08 WAC.

Street Addresses	Mailing Addresses
Department of Ecology	Department of Ecology
Attn: Appeals Processing Desk	Attn: Appeals Processing Desk
300 Desmond Drive SE	PO Box 47608
Lacey, WA 98503	Olympia, WA 98504-7608
Pollution Control Hearings Board	Pollution Control Hearings Board
111 Israel RD SW STE 301	PO Box 40903
Tumwater, WA 98501	Olympia, WA 98504-0903

Signed at Bellevue, Washington, this \(\begin{aligned} \lambda \text{ ay of } \overline{January} \, 2014. \end{aligned}

Jacqueline Klug, Section Manager Water Resources Program NWRO Department of Ecology

Investigator's Report

Application for Water Right - David and Carole Stonnell

Water Right Control Number: G1-28759

Investigator: Jerry Liszak

BACKGROUND

The applicant's property is located in the Carpenter-Fisher sub-basin within the Lower Skagit Watershed, also known as Water Resource Inventory Area 3 (WRIA 3). WRIA 3 has an Instream Resources Protection Program rule (WAC 173-503) established in 2001 to protect senior water rights, maintain a healthy ecosystem, and provide limited amounts of water for future uses. Sun Peak Estates (Sun Peak) submitted proposed mitigation plans on behalf of seven landowners, including the applicant, which Washington Department of Ecology (Ecology) modified by allowing for 1/12th acre lawn irrigation on each lot while accounting for septic return flow of water into the Fisher basin with water pumped from wells tapping water from an aquifer connected to the adjacent Stillaguamish basin. On May 1, 2013, Ecology approved the mitigation plan and issued seven approval orders to the affected parties owning lots within Sun Peak Estates, including the applicant, with certain conditions, including requiring all the wells to be completed in the deeper Sedimentary Aquifer. The Swinomish Indian Tribal Community (Tribe) appealed Ecology's approvals of the mitigation plans on May 28, 2013.

Subsequent to filing the appeal, the seven Sun Peak lot owners (including the applicant), the Tribe, and Ecology have negotiated a settlement resulting in a mitigation agreement by the parties. The mitigation agreement is implemented through the provisions to this water right set forth on pages 2 through 4 above.

To carry out the settlement, Ecology received a letter from the applicant on November 13, 2013, requesting Ecology to consider the proposed mitigation plan submitted by Sun Peak as an application for a water right permit. Ecology finds that the information in the proposed mitigation plan is sufficient to enable Ecology to consider it as a water right permit application under RCW 90.03.250. Further, Ecology finds that the proposed mitigation plan constitutes a proposed "resource management technique" that is designed to "[offset] the impact of the withdrawal of water proposed in the application for the water right . . . in the same water resource inventory area" under RCW 90.44.055.

Project Description

The applicant intends to withdraw groundwater from a well on its property for single domestic use. The system will consist of a well and water distribution system to the home.

Table 1

Summary of Application No. G1-28759				
Attributes	Proposed			
Applicant	David and Carole Stonnell			

Application Received	November 12, 2013
Instantaneous Quantity	10 gpm
Source	Well (Well Tag # BAT494)
Point of Withdrawal	SE ¼, Section 2, Township 32 North, Range 4 East, W.M.
Purpose of Use	Single Domestic
Period of Use	Continuous
Place of Use	The southeast quarter of Section 2, Township 32 North, Range 4 East of the Willamette Meridian. Located in Snohomish County, Parcel 01075700000200 (Lot 2 of Sun Peak Estates)

Legal Requirements for Application Processing

The following requirements must be met prior to processing a water right application:

Public Notice

Notice of this application was published in the Everett Daily Herald on December 7, 2013, and December 14, 2013. No protests were received.

• State Environmental Policy Act (SEPA)

A water right application is subject to a SEPA threshold determination (i.e., an evaluation whether there are likely to be significant adverse environmental impacts) if any one of the following conditions are met:

- (a) It is a surface water right application for more than 1 cubic feet per second, unless that project is for agricultural irrigation, in which case the threshold is increased to 50 cubic feet per second, so long as that irrigation project will not receive public subsidies;
- (b) It is a groundwater right application for more than 2,250 gallons per minute;
- (c) It is an application that, in combination with other water right applications for the same project, collectively exceed the amounts above;
- (d) It is a part of a larger proposal that is subject to SEPA for other reasons (e.g., the need to obtain other permits that are not exempt from SEPA);
- (e) It is part of a series of exempt actions that, together, trigger the need to do a threshold determination, as defined under WAC 197-11-305.

The requested water right is part of the Sun Peaks development on a 40-acre parcel comprised of 12 residential lots having individual wells for each home. Because the combined pumping of all

the wells does not meet any of these conditions, it is categorically exempt from SEPA and a threshold determination is not required.

INVESTIGATION

Site Visit/Site Description

On August 3, 2012, John Rose, of Ecology, and Chuck Lindsay, Associated Earth Sciences, Inc., verified the well location, diameter, and Well Tag Number (BAT494). Depth to water measured from the top of the access port was 8.67 feet. Based on a LIDAR surface elevation of 648.06 feet and accounting for a 1.33 foot casing stickup, the static groundwater elevation was 640.72 feet.

Other Rights Appurtenant to the Place of Use

There are no existing water rights appurtenant to the proposed place of use.

Hydrogeology

The ground surface at Sun Peak and the immediate surrounding area is covered by a layer of low permeability glacial till sediments that are underlain at a relatively shallow depth by Chuckanut Formation bedrock. The glacial till sediments are a few tens of feet thick in the vicinity of the site and consist of varying amounts of clay, silt, sand, gravel, cobbles, and boulders. The glacial till is dense, has low permeability, and is considered to act as a confining unit. The Chuckanut Formation consists of alternating intervals of coarse grained sandstone and minor conglomerate and fine grained sandstone and siltstone. Fractured portions of the Chuckanut Formation are referred to as the Sedimentary Aquifer by the USGS (2009). The Sedimentary Aquifer underlies the Sun Peak properties. The aquifer is confined under Sun Peak site and in other areas where it is fully saturated and covered by glacial sediments. It is unconfined in other areas where it crops out. There are also fine grained bedrock intervals within the Sedimentary Aquifer which may produce localized confining conditions. See Attachment 3, *Hydrogeologic Assessment Sun Peaks Estates, Snohomish County*, prepared by Associated Earth Sciences, Inc, dated October 30, 2012.

Well log data indicate regional groundwater flow directions in the Sedimentary Aquifer is generally westerly trending beneath the Sun Peak site, although it is relatively flat and has northern and southern gradient components respectively north and south of the site. Well logs at different completion elevations also suggest there is a downward gradient component. The Sun Peak wells will tap ground water in the Sedimentary Aquifer at an elevation of roughly 500 feet.

Well Drilling

The 12 domestic wells drilled at Sun Peak range in depth from 42 feet to 425 feet and are completed within fractured, water-bearing sedimentary bedrock. The wells all appear to have encountered roughly 25 feet (Lot 11) to 80 feet (Lot 9) of relatively dense, low permeability glacial till overlying sedimentary bedrock. Nine of the onsite wells (Lots 3, 4, 5, 6, 7, 8, 9, 11, and 12) appear to intercept water bearing, fractured sandstone in the Sedimentary Aquifer at depths of greater than 140 feet below the ground surface.

The depths to ground water in eight of the wells ranged between approximately 145 feet (Lot 3) and 177 feet (Lot 12), which correspond to a rough elevation range of 502 feet to 517 feet. The wells on three lots (Lots 1, 2, and 10) appear to intercept localized shallow water-bearing fractures in the upper bedrock unit that begin at depths of roughly 40 to 60 feet. The ground elevation measured by LIDAR at the Lot 2 well site is 648.06 feet. The depth to ground water measured in the shallow wells in August, 2012, ranged from less than 10 feet (Lot 2) to approximately 20 feet (Lot 10), which correspond to a range in elevation from roughly 641 feet to 622 feet. The well for the subject property and water right, Lot 2, must be deepened to intercept water from the regional Sedimentary Aquifer at an elevation below 500 feet as a provision for obtaining a water right permit. The average static water elevations should be below 550 feet. Wells completed in that manner at Sun Peak would be considered to be in the deeper portion of the Sedimentary Aquifer and, therefore, consistent with the provisions of the ROE. Consistent with provision 2 of this report, the well completion report showing the well depth and water elevation depth shall be sent to Ecology before the water can be used under this water right permit.

Yields from the onsite wells, as reported by the well drillers on the water well reports, range from approximately 1.5 gallons per minute (gpm) to 35 gpm. However most of these were determined from bailer tests which are not as accurate as pump tests. Yields from the wells completed in the deeper Sedimentary Aquifer are reported as an average of approximately 11 gpm.

Site Hydrogeology

Ecology reviewed the Sun Peaks Estates Mitigation Plan and Sun Peaks Hydrogeologic Assessment with all relevant hydrogeologic data and reports, including comments and information submitted by the Swinomish Indian Tribal Community. While Ecology agrees with the general concept of the mitigation plan, Ecology is modifying some assumptions in the Sun Peaks Estates mitigation plan to factor in information regarding the United States Geologic Survey (USGS) Groundwater Model, water well logs and other geologic reports. Ecology's analysis included information received from the Tribe and its reference to USGS model estimates of groundwater extraction and recharge percentage effects on the Fisher Creek Basin. This analysis indicates that if the wells on lots 2 and 10 of Sun Peak Estates are deepened to intercept the regional Sedimentary Aquifer, if outdoor water use from the wells is prohibited on the Sun Peak Estates lots as described in the provisions above, and if the other conditions set forth in the provisions above are satisfied, return flow from septic systems at the Sun Peaks lots to the Fisher Creek Basin would mitigate the use and withdrawals' groundwater extraction effects on the Fisher Creek Basin. These findings of fact apply to the applicant's proposed use and withdrawal of water.

Four Statutory Tests

This Report of Examination (ROE) evaluates the application based on the information presented above. To approve the application, Ecology must issue written findings of fact and determine that each of the following four requirements of RCW 90.03.290 has been satisfied:

- 1. The proposed appropriation would be put to a beneficial use;
- 2. Water is available for appropriation;
- 3. The proposed appropriation would not impair existing water rights; and
- 4. The proposed appropriation would not be detrimental to the public welfare.

Beneficial Use

The Water Resources Act of 1971 (RCW 90.54.020(1) defines beneficial uses of water. The application requests water for single domestic use. Single domestic use is explicitly listed as a beneficial use under RCW 90.54.020(1); therefore, the proposed use of water is a beneficial use.

Availability

For water to be available for appropriation, it must be both physically and legally available.

Physical Availability

For water to be physically available for appropriation there must be ground or surface water present in quantities and quality and on a sufficiently frequent basis to provide a reasonably reliable source for the requested beneficial use or uses. In addition, the following factors are considered:

- Volume of water represented by senior water rights, including federal or tribal reserved rights or claims;
- Water right claims registered under Chapter 90.14 RCW;
- Groundwater uses established in accordance with Chapter 90.44 RCW, including those that are exempt from the requirement to obtain a permit; and
- Potential riparian water rights, including non-diversionary stock water.
- Lack of data indicating water usage can also be a consideration in determining water availability, if the department cannot ascertain the extent to which existing rights are consistently utilized and cannot affirmatively find that water is available for further appropriation.

Although the well has not yet been deepened to the proposed depth below 500 feet elevation, other Sun Peak wells have demonstrated that water is available at the proposed elevation near the applicants proposed point of withdrawal.

Legal Availability

To determine whether water to be legally available for appropriation, the following factors are considered:

- Regional water management plans which may specifically close certain water bodies to further appropriation.
- Existing rights which may already appropriate physically available water.
- Fisheries and other instream uses (e.g., recreation and navigation). Instream needs, including instream and base flows set by regulation. Water is not available for out of

- stream uses where further reducing the flow level of surface water would be detrimental to existing fishery resources.
- Ecology may deny an application for a new appropriation in a drainage where adjudicated rights exceed the average low flow supply, even if the prior rights are not presently being exercised. Water would not become available for appropriation until existing rights are relinquished for non-use by state proceedings.

Water in the Fisher Creek sub-basin is not legally available for new consumptive uses in the absence of approved mitigation measures. However, given that water will be added to the Fisher Creek sub-basin under the conditions of the mitigation plan, as modified by Ecology and agreed to by the Tribe and the applicant, there will be a net benefit to the Fisher Creek sub-basin. A significant proportion of the water will come from the Stillaguamish Basin which will be delivered into the Fisher Creek sub-basin via septic recharge. Water Resource Inventory Area (WRIA) 5 – Stillaguamish River basin has a reservation system for permit-exempt domestic wells (WAC 173-505-090) which accounts for water use at a rate of 350 gallons per day (gpd) and limits outdoor water use to the watering of 1/12 acre for domestic exempt wells. Reservation water is still available in the Stillaguamish River basin. The 350 gpd can be reduced to 175 gpd if the residence is served by an on-site septic system located within the same WRIA. However, in this situation the water will be transported into the adjacent WRIA. Therefore, the Stillaguamish domestic reservation shall be debited 350 gpd on approval of this water right. The maximum potential negative impact to groundwater/surface water in the Stillaguamish Basin is 350 gpd per well, which is equal to a maximum annual total of 0.39 acre-feet per year (ac-ft/yr). See Attachment 4, Hydrogeologic Assessment and Mitigation Plan Sun Peaks Estates, Snohomish County, prepared by Associated Earth Sciences, Inc., dated October 30, 2012.

Potential for Impairment

Impairment is an adverse impact on the physical availability of water for a beneficial use that is entitled to protection. A water right application may not be approved if it would:

- Interrupt or interfere with the availability of water to an adequately constructed groundwater withdrawal facility of an existing right. An adequately constructed groundwater withdrawal facility is one that (a) is constructed in compliance with well construction requirements and (b) fully penetrates the saturated zone of an aquifer or withdraws water from a reasonable and feasible pumping lift.
- Interrupt or interfere with the availability of water at the authorized point of diversion of a surface water right. A surface water right conditioned with instream flows may be impaired if a proposed use or change would cause the flow of the stream to fall to or below the instream flow more frequently or for a longer duration than was previously the case.
- Interrupt or interfere with the flow of water allocated by rule, water rights, or court decree to instream flows.
- Degrade the water quality of the source to the point that the water is unsuitable for beneficial use by existing users (e.g., via sea water intrusion).

Once the well is deepened, this applicant's well will be completed in the Sedimentary Aquifer and will withdraw water hydraulically connected to both the Stillaguamish Basin and the Fisher sub-basin. This will provide more groundwater recharge to the Fisher Creek sub-basin than withdrawn from it by virtue of septic return flows mentioned above as long as the applicant and the applicant's successors-in-interest comply with Ecology's modifications of the applicant's mitigation plan as set forth in the provisions above and as agreed to by the Tribe and the applicant. This will ensure non-impairment of instream flows in the Skagit Basin.

RCW 90.44.055 provides for water resource management techniques to increase water supply via recharge of groundwater as a means of making water available or otherwise offsetting the impact of a withdrawal of groundwater proposed in an application for water right. The increase of groundwater recharge in the Fisher Creek sub-basin will ensure that there is no reduction in water flowing from the Fisher sub-basin into the Skagit Basin. There will also be no impairment in the Stillaguamish Basin since water will be debited 350 gpd from the Stillaguamish domestic reservation, as discussed above.

Public Welfare

There will be no detriment to the public interest or welfare, because water from the Stillaguamish Basin domestic reservation will be tapped and debited, and septic recharge in the Fisher Creek sub-basin will ensure that flows will not be reduced in the Skagit Basin. This will ensure that there will be no negative impacts on the public interest and welfare including instream values, and fish populations.

Consideration of Protests and Comments

In response to public notice of this application, the Department of Ecology received no protests regarding this application for groundwater.

CONCLUSIONS

The conclusions based on the above investigation are as follows:

- 1. The proposed appropriation for single domestic use is a beneficial use of water;
- 2. The requested 10 gpm and 0.39 acre-feet per year is available for appropriation;
- 3. The new appropriation will not impair senior water rights; and
- 4. The new appropriation will not be detrimental to the public welfare.

RECOMMENDATION

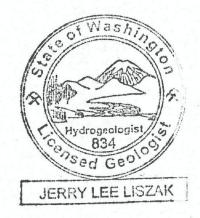
Based on the information presented above, the authors recommend that the request to appropriate groundwater be approved in the amounts described, limited, and provisioned on page 2 through 4 of this report.

Report by:

Jerry Liszak, L.G., L.HG. - Water Resources Program

1/15/2014

Date



If you need this publication in an alternate format, please call Water Resources Program at 360 407-6600. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

REFERENCES

AESI, 2012, Hydrogeologic Assessment and Mitigation Plan Sun Peak Estates, Snohomish County, Washington, Charles Lindsay, Associated Earth Scientists. Inc., October 30, 2012

EES, 2002. Skagit River Basin; Return Flows to Aquifer- Exempt Wells. Draft Memorandum, Dave Moldal, Economic and Engineering Services, Inc. Olympia, Washington. December 10, 2002

Johnson, K.H., and Savoca, M.E., 2010, Numerical simulation of the groundwater-flow system in tributary subbasins and vicinity, lower Skagit River basin, Skagit and Snohomish Counties, Washington: U.S. Geological Survey Scientific Investigations Report 2010-5184, 78 p.

Keta Waters, 2012, Review of "Hydrogeologic Assessment. Sun Peak Estates. Snohomish County, Washington" prepared by Associated Earth Scientists. Inc., October 30, 2012.

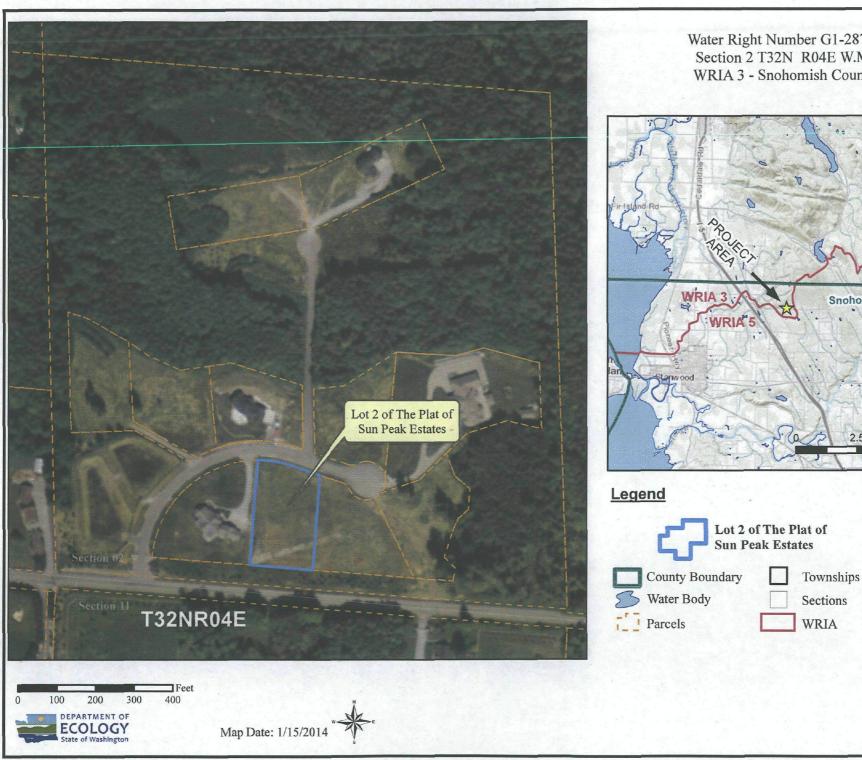
Memorandum, Joel Massmann, March 1, 2013

Liszak, J.L., April 23, 2013, Sun Peak Estates Water Balance for 1/12th acre irrigation

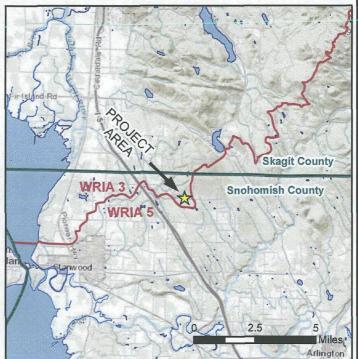
PGG, 2002. City of Sequim 2001 Hydrologic Monitoring Report, Clallam County,

Washington, prepared by the Pacific Groundwater Group for City of Sequim, May 16, 2002.

Savoca, M.E., Johnson, K.H., Sumioka, S.S., Olsen, T.D., Fasser, E.T., and Huffinan, R.L., 2009, *Hydrogeologic framework, groundwater movement, and water budget in tributary subbasins and vicinity, lower Skagit River basin, Skagit and Snohomish Counties, Washington:* U.S. Geological Survey Scientific Investigations Report 2009-5270, 46 p.



Water Right Number G1-28759 Section 2 T32N R04E W.M. WRIA 3 - Snohomish County



Sections

Attachment 2

Lot 2 (Parcel 01075700000200)

Lot 2 of the Plat of Sun Peak Estates being a rural cluster sub division Township 32 North, Range 4 East, SW ¼ SE ¼ of section 2, Willamette Meridian, Auditor's File No. 200706065234 situated within Snohomish County, Washington. Described as follows:

Beginning at the S ½ corner of Section 2, Township 32 North, Range 4 East, W.M. thence S 85°44′53″ E 633.39 ft, thence N 4°15′07″ E 326.56 ft to the true point of beginning, thence N 71°51′25″ W 81.90 ft, thence along a curve to the left having a central angle of 18°13′10″, a radius of 275 ft, and an arc length of 87.45 ft, thence S 4°15′07″ W 273.48 ft, thence S 85°44′53″ E 166.28 ft, thence N 4°15′07″ E 246.56 ft to the true point of beginning.

Associated Earth Sciences, Inc.









2 Pro-

Attachment 3 & 4

Serving the Pacific Northwest Since 1981

October 30, 2012 Project No. EH110368A

Mr. Zachary J. Barborinas 15119 McLean Road Mount Vernon, Washington 98273

Mr. Peter Ojala Carson Law Group P.S. 3202 Hoyt Avenue Everett, Washington 98201-4311

Subject: FINAL REPORT

Hydrogeologic Assessment and Mitigation Plan

Sun Peaks Estates

Snohomish County, Washington

INTRODUCTION AND BACKGROUND

This report summarizes the results of a hydrogeologic assessment completed by Associated Earth Sciences, Inc. (AESI) in support of a mitigation plan for selected lots in the Sun Peaks Estates, which is situated in the Fisher Creek subbasin of Skagit/Snohomish Counties. The general location of the Sun Peaks Estates is shown on the "Location Map," Figure 1. The layout of the site is shown on the Plat Map, Figure 2.

Sun Peaks Estates is roughly 40-acres of property that includes 12 residential lots located just north of 316th Street NW and approximately 1,300 feet east of English Grade Road in northwest Snohomish County. The ground surface of the property generally slopes downward to the southwest and ranges in elevation between roughly 600 feet and 680 feet above mean sea level. A small seasonal tributary to Fisher Creek bisects the site in an approximate east-west direction (Figure 2). All elevations referenced in this report are relative to mean sea level (datum NAVD88) unless otherwise noted.

The Sun Peaks Estates is comprised of 12 residential lots (Figure 2). However, a single home has been built on Lots 5 and 6; therefore, there are a total of 11 buildable lots at the site. Individual single-family domestic wells have been drilled on each of the original residential lots. There are currently occupied homes located on Lot 1, Lots 5/6, Lot 8, and Lot 12.

The Fisher-Carpenter Creek subbasins were closed in 2010 to the drilling of single-family domestic wells under the Skagit Instream Flow Rule amendments reservation system adopted by

the Washington State Department of Ecology (Ecology) in 2006, unless the well's potential impact to surface water flow in either Fisher Creek or Carpenter Creek is mitigated. The 2006 Skagit Instream Flow Rule amendments reservation system established the maximum total daily individual residential water use at 350 gallons per day (gpd) with outdoor water use being limited to the watering of an outdoor area not to exceed a total of ½acre. Of the 350 gpd total residential use, 175 gpd is assumed to be septic return flow, and the remaining 175 gpd is consumptive use.

Due to the closure of the Fisher Creek subbasin, the owners of seven of the Sun Peaks Estates lots (Lots 2, 3, 4, 7, 9, 10, and 11, Figure 2) are currently being denied the use of their wells for single-family residential purposes (domestic exempt) by Ecology under the assumption the wells intercept ground water that provides recharge to Fisher Creek and that their use results in a negative impact to and a diminishment of flow in the stream. These seven property owners are currently appellants (referred to herein as "appellants") in an appeal before the Pollution Control Hearings Board over the closure of the subbasin, and other related issues. The remaining wells on Lots 1, 5, 6, 8, and 12 were installed and put to beneficial use prior to 2010 and are not subject to the current subbasin closure.

The purpose of our services was to evaluate the hydrogeology of the Sun Peaks Estates area, evaluate potential impacts to source water, and to ascertain if the use of the appellants' wells will result in a negative impact to or a diminishment of a source or flow in Fisher Creek or if mitigation is an option.

GEOLOGIC AND HYDROGEOLOGIC SETTING

General

The U.S. Geological Survey (USGS) recently completed a comprehensive and detailed geologic/hydrogeologic evaluation of the lower Skagit River basin, including the Fisher and Carpenter Creek subbasins, for the Skagit County Public Works Department (Skagit County), Skagit County Public Utility District No. 1 (District), and Ecology. Details of the USGS study are presented in Scientific Investigations Report (SIR) 2009-5270 titled *Hydrogeologic Framework, Groundwater Movement, and Water Budget in Tributary Subbasins and Vicinity, Lower Skagit River Basin, Skagit and Snohomish Counties, Washington.* The USGS also developed a detailed numerical ground water flow model of a large portion of the lower Skagit River drainage, including Carpenter and Fisher Creek subbasins. Details of the USGS ground water flow model are presented in SIR 2010-5184 titled *Numerical Simulation of the Groundwater-Flow System in Tributary Subbasins and Vicinity, Lower Skagit River Basin, Skagit and Snohomish Counties, Washington.*

The following is a summary of the regional geologic/hydrogeologic setting of the area in the immediate vicinity of the Sun Peaks Estates, as presented in the above-referenced USGS reports. Pertinent geologic and hydrogeologic details of the area in the vicinity of the Sun Peaks Estates, including contours of ground water elevations in the bedrock aquifer that underlies the project site, are also shown on Figure 1. A generalized geologic cross section of the Sun Peaks Estates site, based on subsurface conditions presented on water well reports for the on-site wells and the in-field generated data, is presented on the "Geologic Cross Section A - A," Figure 3.

- The ground surface at the Sun Peaks Estates and in the immediate surrounding area is covered by a layer of low-permeability glacial till sediments that are underlain at a relatively shallow depth by Chuckanut Formation bedrock.
- The glacial till sediments appear to be a few tens of feet thick in the vicinity of the site and generally consist of various amounts of clay, silt, sand, gravel, cobbles, and boulders. The till sediments are dense, have a low permeability, and are considered to act as a confining unit, not an aquifer, by the USGS (SIR 2009-5270).
- The Chuckanut Formation consists of alternating intervals of coarse-grained (sandstone and minor conglomerate) and fine-grained (mudstone, fine-grained sandstone, and siltstone) deposits. The USGS reports indicate that fractured/permeable portions of the Chuckanut Formation form a "Sedimentary Aquifer (OEc)."
- The Sedimentary Aquifer present within the fractured/permeable portions of the Chuckanut Formation deposits underlies the Sun Peaks Estates. The aquifer is unconfined where it crops out and can be confined in areas where it is fully saturated and covered by glacial sediments. Also fine-grained bedrock intervals within the Sedimentary Aquifer may produce local confined conditions.
- The USGS field-located 10 wells completed within the Sedimentary Aquifer located within roughly 3 miles of the Sun Peaks Estates site, determined their approximate ground surface elevations using Light Detection and Ranging (LiDAR) information, and field-measured depths to water in the wells on several occasions (SIR 2009-5270). Copies of water well reports for the 10 field-located USGS wells are included in Attachment A.
- The ground water elevation data obtained from the USGS wells was used to develop contours of ground water elevations in the Sedimentary Aquifer, as shown on Figure 1. The USGS regional ground water data indicates the following:
 - i. The regional ground water flow direction in the Sedimentary Aquifer beneath the

Sun Peaks Estates site is to the south towards the Stillaguamish River basin (Figure 1).

- ii. The depth to ground water in the USGS monitored wells ranged from approximately 24 feet to over 140 feet below the ground surface (Attachment A). All depths referenced in this report are relative to ground surface unless otherwise noted.
- iii. Ground water in the Sedimentary Aquifer is at an elevation of roughly 500 feet above mean sea level beneath the Sun Peaks Estates (Figure 1, SIR 2009-5270).

Site-Specific Geology and Hydrogeology

The 12 domestic wells drilled at Sun Peaks Estates range in depth from 42 feet to 425 feet and are completed within fractured, water-bearing sedimentary bedrock. A representative of AESI and John Rose of Ecology field-located and measured the depths to ground water in 11 of the 12 on-site wells on August 3, 2012. They were unable to locate the well on Lot 10 during their August 3 site activities. The specific location of each wellhead was determined using a handheld near-survey grade Trimble GeoXT GPS with a hurricane antenna provided by Ecology. The depths to water were measured using an Olympic well probe model 500. A representative of AESI returned to the site on August 8 and field-located the well on Lot 10. The depth to ground water in the Lot 10 well was measured using a Waterline well probe and the approximate location of the wellhead was determined using a hand-held Garmin GPS unit and a review of historical aerial photographs.

The ground surface elevation at each wellhead was determined from LiDAR elevation information (Snohomish County 2003 flight) and the field-generated GPS location data. The ground surface elevation, measured casing stickup, and depth to ground water data were used to estimate the elevation of ground water in each well. A summary of well construction, location, and water level details for the on-site wells is presented in Table 1. Copies of the water well reports for each well is included in Attachment A. The approximate location of each well at the Sun Peaks Estates site is shown on Figure 2.

The wells completed at the Sun Peaks Estates site all appear to have encountered roughly 25 feet (Lot 11) to 80 feet (Lot 9) of relatively dense, low-permeability glacial till overlying sedimentary bedrock (Attachment A, Figure 3). Ground water was not indicated as being encountered in the overlying glacial till sediments at the site by the water well drillers (Attachment A). The bedrock consists of a fine-grained upper sediment package that extended to depths of roughly 120 feet to 170 feet and was described as consisting of fine-grained sandstone, shale, and siltstone (Attachment A, Figure 3). The upper bedrock unit is underlain by what was typically described as gray coarse sandstone with minor layers of shale, siltstone,

and fine-grained sandstone, which is referred to as the lower bedrock unit for the purposes of this report (Attachment A, Figure 3). The on-site wells were constructed with 6-inch-diameter steel casing that was extended through the glacial till sediments and a minimum of 3 feet into the top of the underlying bedrock with the exception of the Lot 1 well, where the 6-inch casing only penetrated the bedrock approximately 1 foot (Attachment A). PVC liners (4.5- to 5.0-inch-diameter) were installed to the completion depths of the wells located on Lots 3 through 12 (Attachment A, Figure 3). The PVC liners were slotted to allow the entry of ground water through the open areas (Attachment A, Table 1). The wells installed on Lots 1 and 2 were completed as open-end casing without PVC liners.

Nine of the on-site wells (Lots 3, 4, 5, 6, 7, 8, 9, 11, and 12) appear to intercept water-bearing, fractured sandstone in the lower bedrock unit at depths of greater than 140 feet below the ground surface (Table 1, Figure 3). The depths to ground water in eight of the wells ranged between approximately 145 feet (Lot 3) and 177 feet (Lot 12), which correspond to a rough elevation range of 502 feet to 517 feet above mean sea level (Table 1, Figure 3). The ground water elevation measured in the well located on Lot 9 was approximately 580 feet above mean sea level (Table 1). With the exception of the Lot 9 well, the range of ground water elevations in the wells completed in the lower bedrock unit at the Sun Peaks Estates site correspond closely to the USGS estimated elevation of 500 feet for the Sedimentary Aquifer at the site (Figures 1 and 3, Table 1).

The wells on the remaining three lots (Lots 1, 2, and 10) appear to intercept localized shallow water-bearing fractures in the upper bedrock unit that begin at depths of roughly 40 to 60 feet (Table 1, Figure 3). The depth to ground water measured in the shallow wells in August 2012 ranged from less than 10 feet (Lot 2) to approximately 20 feet (Lot 10), which correspond to a range in elevation from roughly 641 feet to 622 feet above mean sea level (Table 1, Figure 3).

Yields from the on-site wells, as reported by the well drillers on the water well reports, range from approximately 1.5 gallons per minute (gpm) to 35 gpm and appear to be adequate for single-family domestic use (Attachment A). Reported yields for the three wells completed in the upper bedrock unit are an average of roughly 3.5 gpm. Yields from the wells completed in the lower bedrock unit are reported as an average of approximately 11 gpm (Attachment A).

Table 1 Summary of Well Location and Ground Water Elevation Data Sun Peaks Estates - Snohomish County

							Ground	Elevation				Depth		
Lot No.	Unique ID	Date	Owner	Time	Latitude ¹	Longitude ¹	GPS ¹	LiDAR ²	Well Depth	Open Area	Casing Stickup	to Water	Static Elevation ³	Comments
1	BAT220	8/3/12	Yencich	15:25	48.282636	122.256164	639.99	647.08	48	46-48	1.17	15.42	632.83	House well - recent pumping
2	BAT494	8/3/12	Stonnell	15:15	48.282631	122.256028	642.45	648.06	42	41.5-42	1.33	8.67	640.72	
3	BAT493	8/3/12	Rosenberg	15:00	48.282621	122.255359	648.18	655.63	205	60-205	1.92	144.58	512.97	
4	BAT124	8/3/12	Barborinas	14:15	48.282557	122.253992	667.45	670.68	425	325-425	1.83	165.58	506.93	
5	BAT246	8/3/12	Burton	16:30	48.283683	122.253234	671.65	674.89	240	140-240	1.25	168.33	507.81	House well
6	BAT247	8/3/12	Burton	16:00	48.284099	122.254550	645.86	661.14	207	147-207	2.67	156.67	507.14	Irrigation well - recent pumping
7	BAT248	8/3/12	Halgren	17:30	48.284086	122.254642	671.43	660.24	226	155-226	2.75	146.08	516.91	
8	BAT229	8/3/12	Bennett	15:50	48.283866	122.255625	641.17	650.59	200	140-160	0.83	149.42	502.00	House well
9	BAT234	8/3/12	Bateman	15:35	48.283502	122.256587	644.02	650.33	200	140-200	1.50	72.50	579.33	
10	BAT466	8/8/12	Spane ⁴	18:00	48.284228	122.258039	:	639.59	80	40-80	1.70	19.62	621.67	
11	BAT492	8/3/12	Sundberg	17:00	48.285272	122.255883	676.99	679.19	223	160-223	3.00	176.50	505.69	
12	BAT491	8/3/12	Givens	17:20	48.285245	122.255573	678.22	681.64	276	170-176	0.92	175.50	507.06	House well

Notes:

October 30, 2012

ASSOCIATED EARTH SCIENCES, INC.

¹ Latitude, longitude, and elevation determined using Ecology GPS unit on August 3, 2012, NAVD88 datum.

² LiDAR data from NW Snohomish County 2003 flight, NAVD88 datum.

³ Ground water elevations based on LiDAR ground surface elevations plus field-measured casing stickup.

⁴ Location determined using a hand-held GPS unit and check using Google Earth aerial photographs.

DISCUSSION AND CONCLUSIONS

General

The regional USGS study and site-specific data indicate that Sun Peaks Estates is underlain by what the USGS refers to as the Sedimentary Aquifer which is located within fractured portions of the Chuckanut Formation bedrock at depths greater than approximately 140 feet. The Sedimentary Aquifer is separated from the ground surface at the site by several 10s of feet of dense, low-permeability glacial till and/or un-fractured low-permeability bedrock. The site-specific data does not indicate that there are water-bearing zones in the glacial till or that the Sedimentary Aquifer is in hydraulic continuity with surface waters in the immediate vicinity of the site. This lack of hydraulic continuity is further demonstrated by the seasonal nature of the tributary stream that flows through the Sun Peaks Estates site. AESI's on-site observations and discussions with local landowners indicates that the seasonal stream channel which bisects the Sun Peaks Estates is generally dry (no surface water or ground water discharge/seepage) between roughly July and October of each year. As discussed below, ground water in the Sedimentary Aquifer immediately beneath Sun Peaks Estates does not appear to be a source of water to Fisher Creek or the Fisher-Carpenter Creek subbasin.

Nine of the on-site wells (Lots 3, 4, 5, 6, 7, 8, 9, 11, and 12), including five of the appellant wells (Lots 3, 4, 7, 9, and 11), are completed at depths greater than 140 feet and appear to be intercepting water from the regional Sedimentary Aquifer. The water level elevations in eight of these wells correspond very well with the ground water elevations in the regional Sedimentary Aquifer system described by the USGS (Figure 1, Table 1). The water level in the well located on Lot 9 is approximately 60 feet higher in elevation than the water levels in the other eight wells (Figure 3). It is possible that ground water from a higher fracture zone in the bedrock is migrating down the outside of the 6-inch-diameter steel casing and influencing the ground water level in this well. However, it should be noted that the ground water in the well on Lot 9 is hydraulically separated from the ground surface by over 70 feet of low-permeability bedrock and glacial till (Figure 3).

The data presented in the USGS reports indicate that the regional ground water flow direction in the Sedimentary Aquifer beneath the Sun Peaks Estates is toward the south. Therefore, removing ground water from the five wells (Lots 3, 4, 7, 9, and 11) completed in the Sedimentary Aquifer beneath the Sun Peaks Estates site at the relatively low rate of 350 gpd per well could ultimately cause a potential decrease in ground water throughflow to the Stillaguamish River basin; however, these withdrawals would not have a negative impact on ground water quantity or flow direction in the Fisher Creek subbasin, or result in a diminishment of surface water flow in Fisher Creek. The Sedimentary Aquifer beneath Sun Peaks Estates is not a source of water to Fisher Creek or the Fisher-Carpenter Creek subbasin.

There are three shallow on-site wells (Lots 1, 2, and 10), including two appellant wells (Lots 2 and 10), that appear to be intercepting relatively shallow localized, water-bearing fracture zones within the upper portion of the Chuckanut Formation. The shallow fracture system appears to be hydraulically separated from the ground surface by a few 10s of feet of low-permeability glacial till sediments. Water level information for the three shallow wells indicate confined conditions with static water levels near and, in one well (Lot 1), seasonally above the ground surface. The direction of ground water flow in the shallow fracture system cannot be determined based on the limited available data. Although the shallow fracture system appears to be hydraulically separated from surface water sources in the immediate vicinity of Sun Peaks Estates, it cannot be determined if a portion of the ground water flowing through the upper fracture system ultimately provides recharge to Fisher Creek. Furthermore, it cannot be determined without further study if withdrawals from the three shallow wells would negatively impact ground water flow within the Fisher-Carpenter Creek subbasin or diminish surface water flow in Fisher Creek.

MITIGATION PLAN

No Negative Net Impact from Sun Peaks Estates Appellant Wells

Five of the seven appellant wells (Lots 3, 4, 7, 9, and 11) will withdraw water from the Stillaguamish River basin, and ultimately provide ground water recharge to the Fisher-Carpenter Creek subbasin by virtue of their septic systems and possible outdoor uses. As only two of the seven appellant wells (Lots 2 and 10) could potentially decrease ground water recharge in the Fisher-Carpenter Creek subbasin, with the remaining five wells adding water to the subbasin, there is no overall potential negative net impact to ground water recharge/surface water flow in the Fisher Creek subbasin from the combined use of the appellant wells at the Sun Peaks Estates. The concept of no negative impact to or diminishment of ground water flow/surface water recharge in the Fisher-Carpenter Creek subbasin from the combined use of the seven appellant wells is discussed in detail below.

Five of the seven appellants (owners of Lots 3, 4, 7, 9, and 11) have wells that are completed in the deep regionally extensive Sedimentary Aquifer. These wells are intercepting ground water that provides recharge to the Stillaguamish River basin and do not appear to have hydraulic continuity with the Fisher-Carpenter Creek subbasin. Water Resource Inventory Area (WRIA) 5 – Stillaguamish River basin reservation system for permit-exempt domestic wells (WAC 173-505-090) accounts for water use at a rate of 350 gpd and limits outdoor water use to the watering of 1/12 acre for domestic exempt wells, as more particularly stated in the rule. The 350 gpd can be reduced to 175 gpd if the residence is served by an on-site septic system located in the same WRIA, which is not the case for the appellant's properties at Sun Peaks Estates. Therefore, the maximum potential negative impact to ground water recharge/surface water in the Stillaguamish River basin is 350 gpd per well, which is equal to an annual total of approximately 0.39 acre-feet (ac-ft) per well or a maximum of 1.95 ac-ft for the five wells.

Unmitigated reservation water is still available in the Stillaguamish River basin. Debit water for the total potential impact of 1.95 ac-ft per year from the use of the wells on Lots 3, 4, 7, 9, and 11 needs be accounted for in the Stillaguamish River reservation.

As previously discussed, the Stillaguamish River basin reservation system assumes that of the 350 gpd removed from a well, 175 gpd is returned to the hydrogeologic system as septic return flow. Therefore, the five wells located on Lots 3, 4, 7, 9, and 11 will be providing a total of 875 gpd (0.98 ac-ft per year) of additional ground water recharge to the Fisher-Carpenter Creek subbasin that was obtained from the Stillaguamish River basin.

Two of the seven appellant wells (Lots 2 and 10) are completed in relatively shallow localized fracture zones with depths to static water that are less than roughly 50 feet. Due to their shallow completion depths and the relatively shallow depth to ground water, the use of these wells, without drilling them deeper, has a slight potential to negatively impact ground water recharge in the Fisher-Carpenter Creek subbasin and diminish surface water flow in Fisher Creek. The maximum potential impact to ground and/or surface water in the Fisher-Carpenter Creek subbasin from the use of these wells is 175 gpd per lot, which is a total of 0.39 ac-ft per year.

In summary, the use of the wells completed on Lots 3, 4, 7, 9, and 11 will result in the import of an additional 0.98 ac-ft per year of ground water recharge from the Stillaguamish River basin to the Fisher-Carpenter Creek subbasin. The use of the wells on Lots 2 and 10 could result in a decrease in ground water recharge in the Fisher-Carpenter Creek subbasin a maximum of 0.39 ac-ft per year. Therefore, the combined impact resulting from the use of the seven appellant wells is a net positive increase in ground water recharge to the Fisher-Carpenter Creek subbasin of 0.59 ac-ft per year. The importation of water from the Stillaguamish River basin from Lots 3, 4, 7, 9, and 11 totally offsets the maximum potential impact from the use of the wells located on Lots 2 and 10.

Accordingly, consistent with WAC 173-505-060(1)(c) requirements of monitoring and reporting, Lots 3, 4, 7, 9 and 11 will comply with the necessary and lawful conditions stated in WAC 173-505-090(2), and Lots 2 and 10 will also install a metering device consistent with Lots 3, 4, 7, 9 and 11, for reporting and monitoring. Pursuant to WAC 173-503-060(1)(c), for reporting and quality assurance/control, the Lots will report their metered use annually to Ecology, and agree to keep septic recharge on the properties or its equivalent quantities.

Contingent Alternative Mitigation Plan

If and only if the above mitigation plan is lawfully determined by Ecology to be inadequate, the following contingent alternative mitigation plan is proposed.

The potential negative impact to ground water recharge in the Fisher-Carpenter Creek subbasin due to the use of the shallow wells located on Lots 2 and 10, though already offset by a net positive impact from Sun Peak Estates as an entirety, could also be eliminated if the shallow wells on Lot 2 and 10 were deepened and completed within the Sedimentary Aquifer. Based upon the hydrogeological assessment, the use of the Lot 2 and 10 wells modified in this manner (deepened) would result in removing ground water from the Stillaguamish River basin and would not result in any negative impact to ground water recharge in the Fisher-Carpenter Creek subbasin or a diminishment of flow in Fisher Creek, offset or otherwise.

Therefore, a proposed contingent alternative mitigation plan is as follows:

- 1. Remove the PVC liners installed in the wells located on Lots 2 and 10.
- 2. Drill the wells to depths greater than roughly 140 feet.
- 3. Confirm that the static water level elevations in the deepened wells are in the range of approximately 500 to 520 feet indicating that the wells are intercepting the regional Sedimentary Aquifer.
- 4. Install a new PVC liner in each well that is slotted in a manner which allows water from the deep Sedimentary Aquifer to enter the well.
- 5. Each owner of the deepened wells on Lot 2 and 10, in addition to the owners of Lots 3, 4, 7, 9 and 11, will also comply with the necessary and lawful conditions stated in WAC 173-505-090(2).

LIMITATIONS

We have prepared this report for the use of the identified seven appellants in regard to the use of single-family domestic wells at the Sun Peaks Estates in Snohomish County. The conclusions and interpretations presented in this report should not be construed as a warranty of the subsurface conditions. Our conclusions and recommendations are based on our review of the information described in this report and our interpretation of best available science at the time of this reports preparation. Our experience has shown that soil and ground water conditions can vary significantly over small distances.

Within the limitations of scope, schedule, and budget, AESI attempted to execute these services in accordance with generally accepted professional principles in the field of hydrogeology at the time this report was prepared. No warranty, express or implied, is made.

We have enjoyed working with you and are confident that these recommendations will aid in the successful completion of your project. If you should have any questions or require further assistance, please do not hesitate to call.

Sincerely,
ASSOCIATED EARTH SCIENCES, INC.
Everett, Washington



Charles S. Lindsay, L.G., L.E.G., L.Hg. Senior Principal Geologist/Hydrogeologist

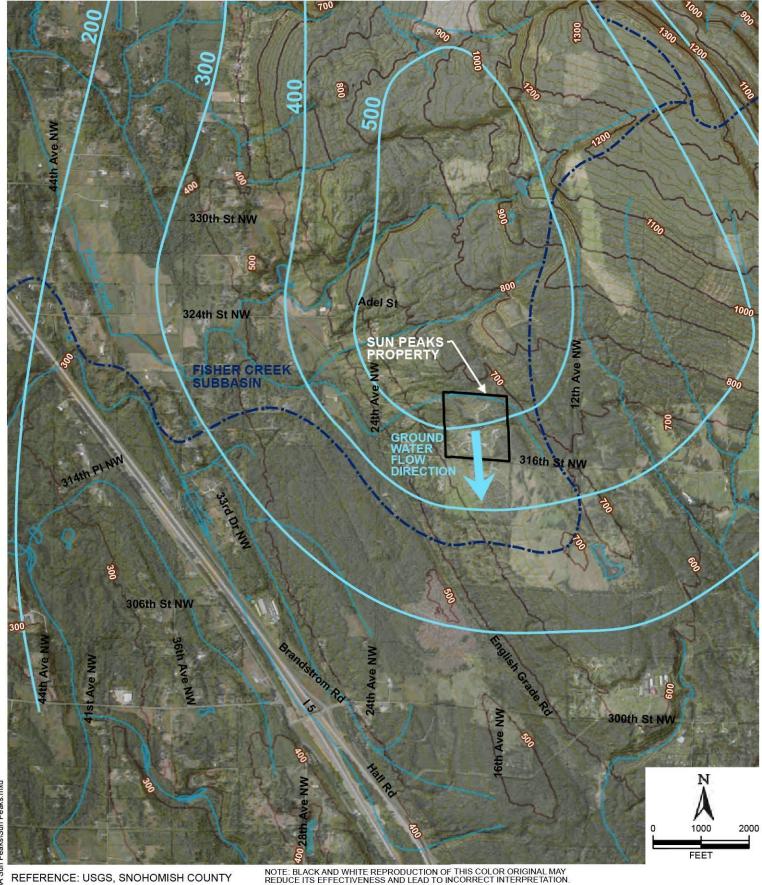
Attachments:

Figure 1: Location Map

Figure 2: Plat Map

Figure 3: Geologic Cross Section A - A'

Attachment A: Water Well Reports



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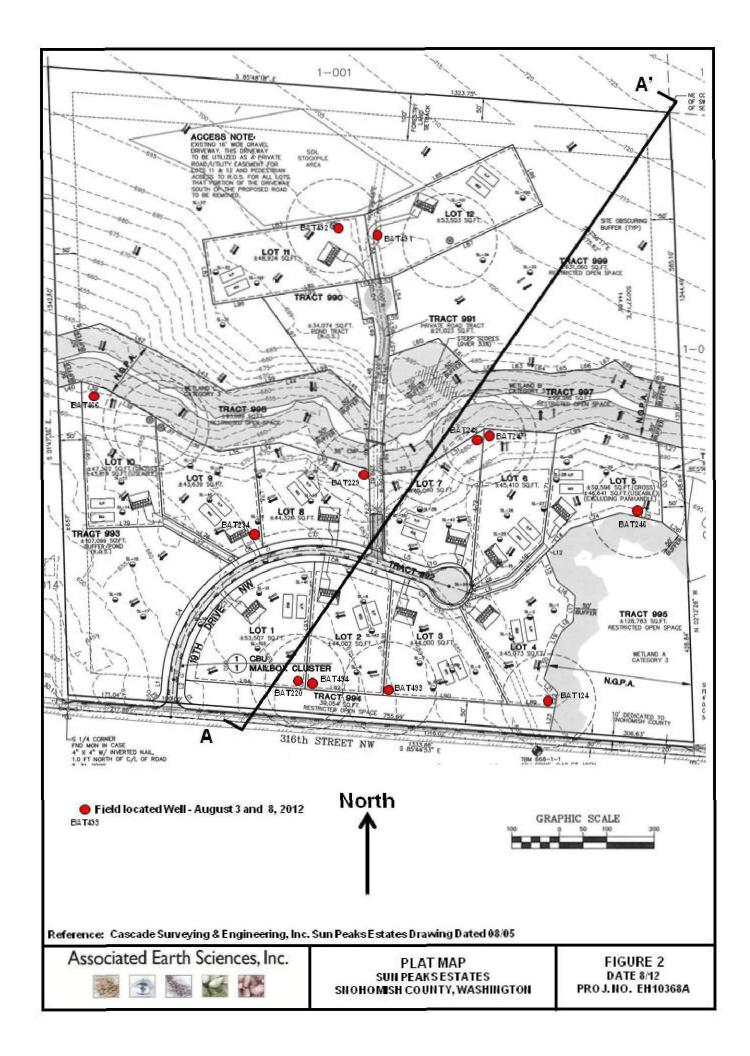


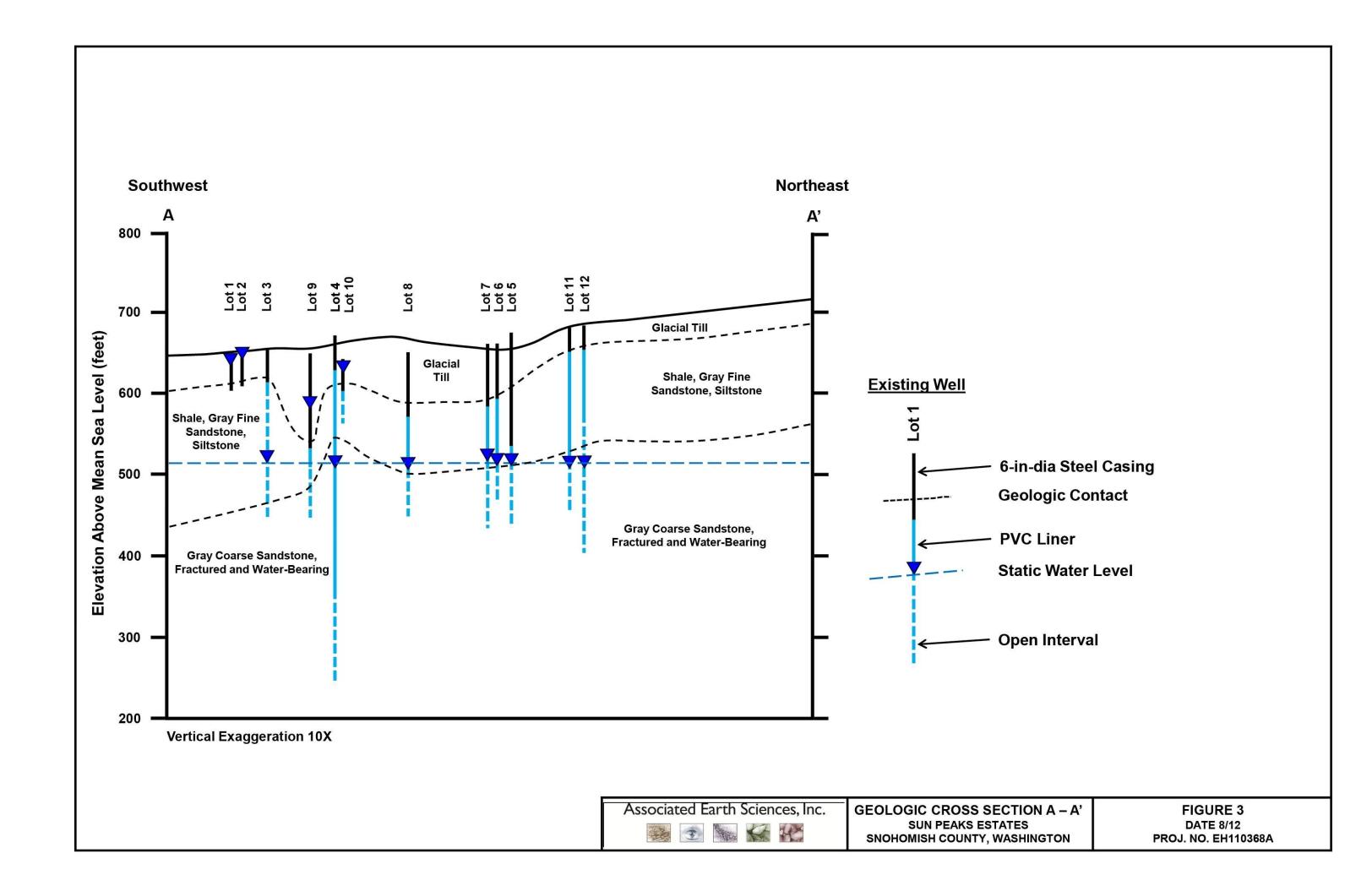
LOCATION MAP

SUN PEAKS ESTATES SNOHOMISH COUNTY, WASHINGTON FIGURE 1

DATE 07/12

PROJ. NO. EH110368A





ATTACHMENT A Water Well Reports

	\vee	Rivers	(0+
WATER WELTSEPORT Original & 1" copy - Scribgy, 2nd copy - uwner, 3" copy - driller	CURRENT Notice of Intent No. 212521	7.1	
Construction/Decommission ("x" in circle)	Water Light Permit No.	3 t 2	10
O Decommission ORIGINAL INSTALLATION Notice of Intent Number FFR 2	Bronasti Osuman Monta Trus U - o to	1cicht	
PROPOSED USE: E-Domestic Industrial Municipal 111VIIU	(1891v Standard) County S	Maham	13 5
TYPE OF WORK: Owner's number of well (if more than one) New well	Lat/Long (s, t, r Lat Deg L	ਮੁਕ ਸ਼ੁਕੂ	•
DIMENSIONS: Diameter of well 6 inches, drilled 4 8 ft. Depth of completed well 48 ft.	Still REQUIRED) Long DegL		
CONSTRUCTION DETAILS Casing & Welded 6" Diam from 0 0.10 46 ft.	Tax Parcel No. 010757 0000	100	
Installed: Liner installed Dium. from ft. to ft. Threaded Dium. from ft. lo ft.	CONSTRUCTION OR DECOMMISSIC Formation: Describe by solor, character, size of material and		
Type of performer used SIZE of performer used in. by in. and no. of perfs from tt. toft.	nature of the material in each stratum penetrated, with at least information. (USE ADDITIONAL SHEETS IF NECESTRATES)	st one entry for each	th change of
	MATERIAL	FROM	TO
Manufacturer's Name	-tan Clay		2
Type Model No. Diam. Slot size from ft. to ft. Dlam. Slot size from ft. to tt.	FIVE	12	16
Gravel/Filter pucked: Yes O'No Size of gravel/sand Materials pluced from It to It	large congler mont	16	30
Surface Seal: G Yes O No To what depth? 18 ft. Minerfel used in seal 18-01-1801-05-05	Gray Silty Saw Clay	20	24
Did may strata contain unusable, water?	Gray SITY Saw WITH	34	33
Method of scaling strate off	5 mall lexiture	+	
PUMP: Manufacturer's Name (Forch) Type: Sci S: H.P. 301	Dark Gray Uniform	33	4/5
WATER LEVELS: Land-surfabo devation above mean sea levelft.	clarimita shake chips	 	
Static level	Broken Shale H20	415	-/5-
Artesian water is controlled by (cap, valve, etc.)	Clyus		`·
WELL TESTS: Drawdown is amount weter level is lowered below static level		 	
Was a pump test made? KYes C No If yes, by whom? Dec 1	-	╏═ ╌┈┼╴	
Yield: Gal/min. with Gl. drawdown after lus. Yield: gal/min. with ft. drawdown after lus. Yield: gal/min. with ft. drawdown after lus.			
Recovery data (timo taken us zero when planp turned off) (woter level measured from well top to water level)			
Time Water Level Time Water Level Timo Water Level	, , , , , , , , , , , , , , , , , , ,		
Date of test			
Builer test			
Airiest gal/min. with stem set of ft. for hrs. Ariesian flow g.p.m. Date			
Temperature of water Was a chemical analysis made? A Yes D No			
	Start Date 1/4/08 Complete	d Date	1408
VELL CONSTRUCTION CERTIFICATION: I constructed and/or acceptashington well construction standards. Materials used and the information			e with all
Driller - Engineer - Trainee Nume (Print)	Drilling Company A 1 DILLINGEN	المجهد لل ل	matre.
riller/Engineer/Trainee Signature	Address Po Boy 1207	- C.C	
Fillenor technic License No. 1297	City State Zip 54 (c. v. (1) Ook) (1) Oct	7839	
riller's Liconsul No	Contractor's Registration No. A 1011 No5 Cr E	Date	2808
riller's Signature		qual Opportunity i	Етріоуст.
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WATER WELL REPORT

Original & 1" copy - Ecology, 2" copy - owner, 3" copy - drille

E C O L O C T' Construction/Decommission ("x" in circle)

Y Construction	Water Right Permit No.	
O Decommission ORIGINAL INSTALLATION Notice	Property Owner Name Keuin 50	nd Rera
of Intent Number	Well Street Address 20+2 19+1	
PROPOSED USE: D'Domestic Industrial Municipal DeWater D Irrigation D Test Well D Other	City Stanwood County 5)	
	Location 5 14-1/4 1/ 15/4 Sec 2 Twn 32	- 1 / CTIO
TYPE OF WORK: Owner's number of well (if more than one)	200mon July 1 14 port of the 1 will be	R circle
図 New well □ Reconditioned Method:□ Dug □ Bored □ Driven □ Deepened □ Priven □ Rotary □ Jetted	Lat/Long (s, t, r Lat Deg Lat	
DIMENSIONS: Diameter of well 6 inches, drilled 42 ft. Depth of completed well 42 ft.	Still REQUIRED) Long Deg Lon	ig Min/Sec
CONSTRUCTION DETAILS	Tax Parcel No. 010757 000 00	12 00
Casing		
☐ Threaded Diam from ft. to ft.	CONSTRUCTION OR DECOMMISSION	
Perforations: [] Yes [] No	Formation: Describe by color, character, size of material and s nature of the material in each stratum penetrated, with at least o	iructure, and the kind and
Type of perforator used	information. (USE ADDITIONAL SHEETS IF NECESS	
SIZE of perfsin. byin. and no. of perfsfromft. toft.	MATERIAL	FROM TO
Screens: Yes Ho C K-Pac Location Manufacturer's Name	Black Duff	<u>0</u> 2
Diam. Slot size from ft. to ft.	tan conglormant Rock	2 /2
Diam. Slot size from ft. to ft.	Siltchil	
Gravel/Filter packed: ☐ Yes ☐VNo ☐ Size of gravel/sand	Gay conglormant	12 3 3
Surface Seal: X Yes O No To what depth? 18 ft.	Fray Sand Stone Fine	33 4/
Material used in seal Bentonoltechio		
Did any strata contain unusable water? ☐ Yes ☐ No	GYCUI Fructure Sandstone	41 42
Type of water? Depth of strata	デルセ	
Method of sealing strata off	۸	
PUMP: Manufacturer's Name		
Type:		-
WATER LEVELS: Land-surface elevation above mean sea levelft.		
Static level ft. below top of well Date 22210		
Artesian pressure lbs. per square inch Date		
Artesian water is controlled by(cap, valve, etc.)		
WELL TESTS: Drawdown is amount water level is lowered below static level	·	
Vas a pump test made? ☐ Yes D. No If yes, by whom?		
field: gai./min. with ft. drawdown after hrs.		
field: gal/min. with fl. drawdown after hrs.		
(feld: gal.httin. with ft. drawdown after hrs. Recovery data (time taken as zero when pump turned off) (water level measured from well		
p to water level)	<u> </u>	
ime Water Level Time Water Level Time Water Level		
hate of test 22210		
tailer test 5 gal/min. with 30 ft. drawdown after 2 hrs.		
intestgal/min. with stem set atft. forhrs.		
rtesian flow g.p.m. Date		
emperature of water Was a chemical analysis made? DI Yes DI No	Start Date 2 13 10 Completed	Date 2 23 10
	Start Date 21310 Completed	Date 2 23 10
FILL CONSTRUCTION CERTIFICATION: I constructed and/or acce	ent responsibility for construction of this well, and i	ts compliance with all

CURRENT

Unique Ecology-Well-ID-Tag No.

Stonell Lot 2

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

| Driller | Engineer | Trainee | Name | Print | Dr. | Dr

Lot 3 Wales yaa Rosenbors WATER WELL REPORT Notice of Intent No. Original & I" copy - Ecology, 2nd copy - owner, 3rd copy - driller Unique Ecology Well-ID Tag No. Construction/Decommission ("x" in circle) Water Right Permit No. @ Construction Decommission ORIGINAL INSTALLATION Notice Property Owner Name K + U IN of Intent Number Well Street Address えったマ E Domestic ☐ Industrial ☐ Municipal PROPOSED USE City < tan wood County Shuhom □ DeWater ☐ Irrigation ☐ Test Well ☐ Other Location 5 R 1/4-1/4 N 5 1/4 Sec 2 Twn 3-2R TYPE OF WORK: Owner's number of well (if more than one) □ Bored Mew well Acconditioned Method : Dug ☐ Driven Lat/Long (s, t, r Lat Deg Lat Min/Sec ☐ Deepened ☐ Cable ☐ Rotary ☐ Jetted inches, drilled 205ft. DIMENSIONS: Diameter of well Still REQUIRED) Long Deg Long Min/Sec Depth of completed well Tax Parcel No. 010 757 000 003 00 CONSTRUCTION DETAILS EF Welded Diam, from +2 Casing ☐ Liner installed 4/-Installed: Diam. from ft. to 2 CONSTRUCTION OR DECOMMISSION PROCEDURE ☐ Threaded Diam, from Formation: Describe by color, character, size of material and structure, and the kind and Perforations: Z Yes D No nature of the material in each stratum penetrated, with at least one entry for each change of 50 W Type of perforator used information. (USE ADDITIONAL SHEETS IF NECESSARY.) SIZE of perfs 3/6 in. by 4 in. and no. of perfs 20 Grow 60th to 2015 FROM ☐ Yes ☐ No ☐ K-Pac Location Black Manufacturer's Name Type Slot size Diam. from 141 Diam. Slot size from ft. to Gravel/Filter packed: 1 Yes DK-No ☐ Size of gravel/sand Materials placed from sand stone Surface Seal: DX Yes D No To what depth? Material used in scal BentinoitCC Did any strata contain unusable water? ☐ Yes vpe of water? Depth of strata 150 Acthod of sealing strata off PLIMP: Manufacturer's Name 203 Type: ___ HP WATER LEVELS: Land-surface elevation above mean sea level Static level ft. below top of well Date 12900 lbs, per square inchr Date Artesian pressure Artesian water is controlled by (cap, valve, etc.) WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test made? D Yes No If yes, by whom? Yield: PSO gal./min. with 140 fl. drawdown after_ gal/min.with_ ft. drawdown after Yield: ft drawdown after Yield: galimin with

Time Water Level Water Level Bailer test 1,5 gal/min, with 144 ft, drawdown after 3 hrs. gal /min. with stem set at ft, for g.p.m. Date 12910 Temperature of water _____ Was a chemical analysis made? [2] Yes D No Start Date Completed Date WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief. riller | Engineer | Trainee Name (Print) | Dav | Qut | Truly | ADDITION and Diagina Drilling Company

Driller/Engineer/Trainee Signature Driller or trainee License No. If TRAINEE. Driller's Licensed No. Driller's Signature

Recovery data (time taken as zero when pump turned off) (water level measured from well

top to water level)

POPOV City, State, Zip

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WATER WELL REPORT

Griginal & 1° copy - Ecology, 2° copy - owner, 3° copy - driller	CURRENT	
Construction/Decommission ("x" in circle)	Notice of Intent No. WE07375	
★ Construction	Unique Ecology Well ID Tag No. BAT 124	
Decommission ORIGINAL INSTALLATION	Water Right Permit No.	
Notice of Intent Number	Property Owner Name SUNDBERG HOMES	
PROPOSED USE: Domestic Industrial Manicipal DeWater Inrigation Test Well Other	Well Street Address LOT 4 19TH DRIVE NW	
TYPE OF WORK: Owner's number of well (if more than gne)	· · · · · · · · · · · · · · · · · · ·	
	City STANWOOD County	
Depend Cable Rotary Justed DiMENSIONS: Diameter of well 6 inches, drilled 425 n.	Location SF 1/4-1/4 SE 1/4 Sec 2 Twn 32	····
Depth of completed well 425 ft.	(s, t, r Still REQUIRED)	WWM O
CONSTRUCTION DETAILS	Lat/Long Lat Deg Lat M	in/Sec
Casing Welded 6 Diam from 0 ft. to 43 ft. frastalled: I Liner installed 4.5 Diam from 5 ft. to 425 ft.	Long Deg Long I	
Installed:	Tax Parcel No. (Required) 010757-000-004-00	
Perforations: Yes No	CONSTRUCTION OF DECOMMISSION PROCEDI	
Type of perforator used SKILLSAW	Formation: Describe by color, character, size of material and	structure, and the kind and
SIZE of peris 1/8 in. by 6 in. and no. of peris from 325 ft. to 425 ft.	nature of the material is each stratum penetrated, with at less of information. (USE ADDITIONAL SHEETS IF NECESSA	
Screens: Yes No K-Pac Location	MATERIAL	FROM I TO
Manufacturer's Name Type Model No.	BROWN CLAY AND GRAVEL	0 4
	GRAVEL SAND AND BROWN SILT	4 21
Diam. Slot size from ft. to ft. Diam. Slot size from ft. to ft.	BROWN CLAY AND GRAVEL	2] 24
Gravel/Filter packed: Yes X No Size of gravel/sand	GRAVEL SAND AND BROWN SILT	24 30
Materials placed from ft. to ft.	GREY CLAY SILT SAND AND GRAVEL	30 36
Surface-Seal: E Yes No To what depth? 18 ft.	HLACK SHALE	36 48
Material used in seal BENTONITE	BROWN SILTSTONE	48 130
Did any strate contain arosable water? Yes 🗷 No	GREY SANDSTONE	130 210
Type of wase? Depth of strate	BROWN SILTSONE	210 235
Method of sealing strata off	GREY SANDSTONE	235 425
PUMP: Manufacturer's Name		
		ļ
WATER LEVELS: Land-surface elevation above mean sea level ft. Static level 169 ft, below top of well Dats 10/24/07		
\		
Artesian pressure fbs. per square inch Date		
Artesian water is controlled by (csp. valve, etc.)		
WELL TESTS: Drawdown is amount water level is lowered below static level		
Was a pump test made? Yes No If yes, by whom? Yield: gal/noin, with ft. drawdown after hrs.		
Yield: gal/min. with fl. drawdown after hrs.		
Yield: gal/min. with ft. drawdown after bra.	·	
Recovery data (time taken as zero when pump turned off) (water level measured from well		
top to water level)		
Time Water Level Time Water Level Time Water Level		
Date of test Bailer Test gal/min. with ft. drawdown after hrs.		
	<u></u>	
Assessing flow g.p.m. Date	Start Date 10/22/07 Completed Date	10/24/07
Temperature of water Was a Chemical malysis made? Yes No	Dutt Deta 14,122-07 Compressed Date	
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility	for construction of this wall and its compliance with all	Washington well
construction standards. Materials used and the information reported above are true to		TOWER SECTION
		אמו ו הומ הומ
niller Engineer Trainee Name April RALPH RIGGLES	Drilling Company DAHLMAN PUMP & WELL	DIVIDING INC
riller/Engineer/Trainee Signature WMW.	Address PO BOX 422	
riller or trainee License No. 2043	City, State, Zip BURLINGTON , WA	. 98233
FTRAINEE: Driller's License No:	Contractor's	•
riller's Signature:		ate 10/24/07
V 850.1.20 (P~ 4707)	Feedow is an Fauel On	nominity Employer

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WATER WELL REPORT

Original & 1" copy - Ecology, 2" copy - owner, 3" copy - driller

Construction/Decommission ("x" in circle)	Onique Ecology Well ID 1 ag 140 1 DCL 1	<u> </u>	
Ø Construction .	Water Right Permit No.		
O Decommission ORIGINAL INSTALLATION Notice	Property Owner Name Sun Berg Ho	M <	
of Intent Number	Well Street Address Lots: 31720 10		
PROPOSED USE: Domestic Industrial Municipal	City Skinwood County 5 no		
□ DeWater □ Irrigation □ Test Well □ Other	Location 5/3/4-1/4 //3/4 Sec 2 Twn 32R		
TYPE OF WORK: Owner's number of well (if more than one)	Location Martin Con Time Tax	WWM one	
New well □ Reconditioned Method: □ Dug □ Bored □ Driven Despensed	Lat/Long (s, t, r Lat Deg Lat M	lin/Sec	
DIMENSIONS: Diameter of well 6 inches, drilled 240 ft. Depth of completed well 240 ft.	Still REQUIRED) Long Deg Long	Min/Sec	
	Tax Parcel No. 010757 00000 5	00	
CONSTRUCTION DETAILS Cusing Welded 6 " Diam from 1 ft. to 24/ ft. Installed: Diam from 6 to 24/ ft. Diam from 6 to 24/ ft.			
Installed: Diam. from 6 to 940 ft. Otherwise St. Yes O No	CONSTRUCTION OR DECOMMISSION P	ROCEDURE	
Perforations: 27 Yes CJ No	Formation: Describe by color, character, size of material and stru		
Type of perforator used 59W	nature of the material in each stratum penetrated, with at least one information. (USE ADDITIONAL SHEETS IF NECESSA		
SIZE of perfs 3/16 in. by 4 in, and no. of perfs 10/1/10m/40 ft. to 2/10	MATERIAL	FROM TO	
Screens:	tan top silty sand	0 3	
Manufacturer's Name	tak silty saw zinc	3 17	
TypeModel No	Gray firm gilty Gravel	17 32	
Diam. Slot size from fl. to fl. Diam. Slot size from fl. to fl.	Gray Carge SIN Sand	32 67	
Gravel/Filter packed: □ Yes W No □ Size of gravel/sand	tan shale	67 98	
Materials placed from		98 175	
Surface Seal: 图 Yes □ No To what depth? 20 R.	crav medium sandstons	175 198	
Material used in scal Bentinoite chips	1+20 190		
Did any strata contain unusable water? ☐ Yes No	, , , , , , , , , , , , , , , , , , ,	198 240	
Type of water? Depth of strata			
Method of sealing strata off			
PUMP: Manufacturer's Name GOUIO			
Type: 30B H.P. 13			
WATER LEVELS: Land-surface elevation above mean sea levelft.			
Static level 175 ft. below top of well Date 92508			
Ariesian pressurelbs. per square inch Date			
Artesian water is controlled by			
(cap, valve, etc.)			
WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test made? DF Yes D No If yes, by whom? DrawiD			
rield: S gal./min. with 30 ft. drawdown after / hrs.			
field: 3 gal/min with 3 ft. drawdown after 2 hrs. (field: gal/min with ft. drawdown after hrs.	7/00 rate 3 upm		
lecovery data (time taken as zero when pump turned off) (water level measured from well op to water level)			
fime Water Level Time Water Level Time Water Level	RECEIVED		
Date of test	OCT 1 7 2008		
tailer test 5 gal/min. with 45 ft. drawdown after 30 Min	DEPT. OF ECOLOGY		
cirtestgal/min, with stem set atft. forhrs.	527 1. 01 E00E0G1	<u>'</u>	
ntesian flow			
emperature of water Was a chemical analysis made? 🎉 Yes 🗆 No			
	Start Date 9 / 0 5 Completed D	ate <u>92508</u>	

CURRENT

Notice of Intent No. W268571

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief. Driller/Engineer/Trainee Signature Driller or traince License No. City, State, Zip ILTRAINEE, Dr. D. 1942 QE Date 10108 Driller's Liceased No Driller's Signature

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this Well Report.	WATEI Original & 15 con Et 0 1 0 4 7 Construction/Decommiss Construction O Decommission ORIGI of Interpretation
<u>0</u>	PROPOSED USE: Domesti
Information	TYPE OF WORK: Owner's number is New well Reconditioned
ř	DIMENSIONS: Diameter of well
nfo	Depth of completed CONSTRUCTION DETAILS
and/or the l	Casing Welded Installed: D. Liner installed 4
ō	Perforations: Yes □ No Type of perforator used Sau
Jq/	SIZE of perfs 3/16 in by 4
	Screens:
Data	Туре
	Diam. Slot size Diam. Slot size
Ę.	Gravel/Filter packed: Yes Materials placed from
Ŧ	
inty t	Surface Seal: X Yes I No To
ırranty t	Surface Seal: MYes INO TO Material used in seal 18 en 1
Warranty t	Surface Seal: Yes I No To Material used in seal 18eh
OT Warranty t	Surface Seal: MYes No To Material used in seal 18 e h 1 Did any strata contain unusable water? Type of water? Method of sealing strata off PUMP: Manufacturer's Name
NOT Warranty t	Surface Seal: MYes No To Material used in seal 18 en 1 Did any strata contain unusable water? Type of water? Method of sealing strata off
es NOT Warranty t	Surface Seal: MYes INO TO Material used in seal ISen IDid any strata contain unusable water? Type of water? Method of sealing strata off IPUMP: Manufacturer's Name Type: SUS
does NOT Warranty t	Surface Seal: MYes INO To Material used in seal 13 e h Did any strata contain unusable water? Type of water? Method of sealing strata off PUMP: Manufacturer's Name Type: 505
y does NOT	Surface Seal: A Yes No To Material used in seal 18 e h Did any strata contain unusable water? Type of water? Method of sealing strata off PUMP: Manufacturer's Name Type: SUS WATER LEVELS: Land-surface ele Static level / SCO Artesian pressure Artesian water is controlled by
logy does NOT Warranty t	Surface Seal: MYes No To Material used in seal 18 e h Did any strata contain unusable water? Type of water? Method of sealing strata off PUMP: Manufacturer's Name Type: 500 WATER LEVELS: Land-surface ele Static level / 500 Artesian pressure Artesian water is controlled by WELL TESTS: Drawdown is amount
y does NOT	Surface Seal: MYes No To Material used in seal 18 e h Did any strata contain unusable water? Type of water? Method of sealing strata off PUMP: Manufacturer's Name Type: SUB WATER LEVELS: Land-surface ele Static level / SCO Artesian pressure Artesian water is controlled by WELL TESTS: Drawdown is amoun was a pump test made? MYes Yield: Ggal/min. with
y does NOT	Surface Seal: MYes No To Material used in seal 18 e h Did any strata contain unusable water? Type of water? Method of sealing strata off PUMP: Manufacturer's Name Type: 505 WATER LEVELS: Land-surface ele Static level / 500 Artesian pressure Artesian water is controlled by WELL TESTS: Drawdown is amoun Was a pump test made? MYes
y does NOT	Surface Seal: MYes No To Material used in seal Ben L Did any strata contain unusable water? Type of water? Method of sealing strata off PUMP: Manufacturer's Name Type: SUB WATER LEVELS: Land-surface ele Static level / SCO Artesian pressure Artesian water is controlled by WELL TESTS: Drawdown is amoun Was a pump test made? Wes Yield: gal/min. with Yield: gal/min. with Yield: gal/min. with Recovery data (time taken as zero where
nt of Ecology does NOT	Surface Seal: M Yes
y does NOT	Surface Seal: MYes No To Material used in seal Ben 1 Did any strata contain unusable water? Type of water? Method of sealing strata off PUMP: Manufacturer's Name Type: SUB WATER LEVELS: Land-surface ele Static level / SCO Artesian pressure Artesian water is controlled by WELL TESTS: Drawdown is amount was a pump test made? Wes Yield: 10 gal/min. with Yield: gal/min. with Yield: gal/min. with Recovery data (time taken as zero when tap to water level)
nt of Ecology does NOT	Surface Seal: M Yes No To Material used in seal Seal To Material used in seal Seal To Did any strata contain unusable water? Type of water? Method of sealing strata off PUMP: Manufacturer's Name Type: SUB WATER LEVELS: Land-surface ele Static level
partment of Ecology does NOT	Surface Seal: M Yes No To Material used in seal Seal No To Material used in seal
nt of Ecology does NOT	Surface Seal: M Yes No To Material used in seal Seal Po No To Material used in seal Seal Po No To Material used in seal Seal Po No To Material used in seal No To N

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WATER WELL REPORT	CURRENT		
Original & 1. copy - Ecology, 2nd copy - owner, 3rd copy - driller	Notice of Intent No. W252	168	
estationer their original at a copy - Econogy, 2 Copy - Owner, 3 Copy - Grands E C O L O G Y	Unique Ecology Well ID Tag No		_
Construction/Decommission ("x" in circle)		<u> </u>	
S Construction	Water Right Permit No		
O Decommission ORIGINAL INSTALLATION Notice	Property Owner Name Sun Peak	ほって こ	•
of Intent Number	Well Street Address 20t6, 31821		_ Alist
PROPOSED USE: S Domestic	1		CE CL
□ DeWater □ Irrigation □ Test Well □ Other	City Stan wood County 5		_
YPE OF WORK: Owner's number of well (if more than one)	Location <u>SE</u> 1/4-1/4 <u>NE</u> 1/4 Sec <u>2</u> Twn <u>22</u>		
New well Reconditioned Method: Dug Bored Driven		MAW oue	
Deepened A Cable	Lat/Long (s, t, r Lat Deg La	t Min/Sec	
NIMENSIONS: Diameter of well 6 inches, drilled 20 7 ft.	Still REQUIRED) Long Deg Lo	ng Min/Sec	
Depth of completed well 207 ft.			_
CONSTRUCTION DETAILS	Tax Parcel No. 3204 02 004 00	<u> </u>	_
casting Welded 6 Diam. from 0 ft. to 67 ft. ostalled: 12 Liner installed 4 Diam. from 5 ft. to 207 ft.	CONSTRUCTION OR DECOMMISSIO	N PROCEDURE	7
☐ Threaded Time ft. to ft.	Formation: Describe by color, character, size of material and		
erforations: Wes No	nature of the material in each stratum penetrated, with at least		٢
ype of perforator used <u>Saw</u> IZE.of.perfs <u>3116</u> in. by <u>4</u>] in. and no. of perfs <u>5</u> from 1471. to <u>261.</u> 7	information. (USE ADDITIONAL SHEETS IF NECE	SSARY.)	
	MATERIAL	FROM TO	
creens:	74 M .	12	
ype Model No	Tantop Soil Sandy	2 3	
iam. Stot size from R to ft.	tan conglormant	3 141	
iam. Slot size from ft. to ft.	Gray Conglornus	15 55	
ravel/Filter packed: Yes No Size of gravel/sand Interials placed from ft. to ft.	Gray Finsandston	55 65	_
	moduly Gray saw Stone	65 87	
urface Seal: (A Yes No To what depth? 2 fl.	Fine brown garastone	87 140	
laterial used in seal 1387 + 1 mm) + Chips	Sok Shale (rear	140 14/5	
id any strata contain unusable water? Yes No	Gray Shale #20	145 185	
ype of water? Depth of strata ethod of sealing strata off	bruy sandstone	185 207	<u>'- </u>
UMP: Manufacturer's Name /-OULO			
/pc: SUB H.P. I	14 12 13 13 14 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		\dashv
ATER LEVELS: Land-surface elevation above mean sea level ft.	Well Produce 64P)	n	\dashv
atic level /50 ft. below top of well Date 12208	10T 3 3 10 4 5 T		
tesian pressure lbs. per square inchr Date	ADDUCE 15 (FPM		
tesian water is controlled by	well trest 215 hr at	60Pm	\dashv
(cap, valve, etc.)	Not 5 Drop 36	OU FAX	
ELL TESTS: Drawdown is amount water level is lowered below static level	NOT DIDING 30		\dashv
as a pump test made? To Yes D No If yes, by whom?			
eld: 6 gal/min. with 40 ft. drawdown after 2. 5 brs. eld: gal/min. with ft. drawdown after hrs.		1	-
eld: gal./min. with fl. drawdown after hrs.			\dashv
covery data (time taken as zero when pump turned off) (water level measured from well			-
ne Water Level Time Water Level Time Water Level	RECE	IVED	\neg
THE MAIN FALSE LINE MAIN FEACT			

I cultication of water way a circumon many signification of the control		
	Start Date 9 10 08	Completed Date 12 1208
WELL CONSTRUCTION CERTIFICATION: I constructed and/or Washington well construction standards. Materials used and the inform		
Driller Gngineer Traince Name (Print) Trub Auth sour	Drilling Company 4101	ling and Digging
Driller/Engineer/Trainee Signature	Address POBOX 120	
Driller or trainee License No	City, State, Zip Stan Was	10
ITTRAINEE,	Contractor's	34.5 00
Driller's Licensed No.	Registration Ng. 1	142 RD Date 12 12 08
Driller's Signature	1	Cantage is an Equal Canadamaia Canalana

DEPT. OF #COLOGY

45

g.p.m. Date

Was a chemical analysis made? 😿 Yes 🗆 No

gal,/min. with stem set at _

Notice of Intent No. <u>W252 180</u>

Manager of Control of Control
7.4 18 7 MILLER
Street W. F. Street St. W. St.
CHECK PARTY NAMED IN COLUMN TWO IS NOT THE OWNER.
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The second second second
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Charles.
PARTERETOR TEATS

Construction/Decommission ("x" in circle)	Unique Ecology Well ID Tag No		
O Decommission ORIGINAL INSTALLATION Notice	Property Owner Name SunR-cuks Estat-S		
of Intent Number	Well Street Address Lat 7 Sun Deaks 31812,19		
PROPOSED USE: Dewater Dirigation Directive Direction D	City Standson County 5/1		
	Location 5\(\varE1/4-1/4\) N\(\varE1/4\) Sec \(\varZ\) Twn\(\varZ\)2	R 4/ EWH	dirde
TYPE OF WORK: Owner's number of well (if more than one) ✓ New well ☐ Reconditioned Method: ☐ Dug ☐ Bored ☐ Driven ☐ Deepened ☑ Cable ☐ Rotary ☐ Jetted		www. Min/Sec _	one
DIMENSIONS: Diameter of well 6 inches, drilled 226 ft. Depth of completed well 126 ft.	Still REQUIRED) Long Deg Loi	ng Min/Sec	·
CONSTRUCTION DETAILS	Tax Parcel No. 3204103 0041	0030	0
Casing Definition Control of the Con	CONSTRUCTION OR DECOMMISSION PROCEDURE Formation: Describe by color, character, size of material and structure, and the kind and		
Perforations: Yes No	nature of the material in each stratum penetrated, with at least	one entry for eac	
Type of perforator used 52 W SIZE of perfs 3/16 in by 4 in and no. of perfs/CO from 155ft to 226	information (USE ADDITIONAL SHEETS IF NECES		
Screens: Yes & No K-Pac Location	MATERIAL	FROM	70
Manufacturer's Name	tan topsoil sanily	2	3
Type Model No.	tan +111		74
Diam. Slot size from ft to ft.	bray till	15	35
Diam. Slot size from ft, to ft.	Gray Gilty Sand (orge	25	75
Gravel/Filter packed: ☐ Yes ☐ No ☐ Size of gravel/sand	Gray Fine Sandston e	75	150
	Cray corse sand stone	150	760
Surface Seal: A Yes O No To what depth? 20 ft. Material used in seal Bentingster Chip 5	brail time sandstone	160	204
	Gray shale Ato	204	207
Did any strata contain unusable water?	Gray Sand Stone	207	226
Method of sealing strata off			
PUMP: Manufacturer's Name NO			<u> </u>
Type: HP.			7 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -
WATER LEVELS: Land-surface elevation above mean sea level ft.			
Static level 155 ft. below top of well Date /0 708			
Artesian pressure lbs. per square inchr Date			
Artesian water is controlled by			
(cap, vaive, etc.)	Dan No Zu Filos		
WELL TESTS: Drawdown is amount water level is lowered below static level	Pump setat 207		
Was a pump test made? Yes No If yes, by whom?	at 1 GFm to slow		
Yield: gal/min with ft drawdown after hrs. Yield: gal/min with ft drawdown after hrs.	Gray Floating 5,1+		
Yield: gal/min with ft drawdown after hrs. Yield: gal/min with ft drawdown after hrs.			
Recovery data (time taken as zero when pump turned off) (water level measured from well			
tap to water level)			
Time Water Level Time Water Level Time Water Level			
Date of test 10 60 8	Very total (Dun		
Bailer test 12 gal/min. with 70 ft. drawdown after 20 hrs.	recoverat 1,5 GPM		·
Airtest gal/min, with stem set at fl. for hrs.			
Artesian flow g.p.m. Date			
Temperature of water Was a chemical analysis made?	man 1010 C	d Date /O	708
	Start Date 10 1 0 8 Complete	Date / L	100
ELL CONSTRUCTION CERTIFICATION: I constructed and/or acce	ept responsibility for construction of this well, and	its complian	ce with all

CURRENT

	Start Date 70 70 6 Completed Date 70 700
WELL CONSTRUCTION CERTIFICATION: I constructed and/or a	ccept responsibility for construction of this well, and its compliance with all
Washington well construction standards. Materials, used, and the informat	
□ Driller □ Engineer □ Trainee Name (Print)	Drilling Company A1 Drillin 440 Digally
Oriller/Engineer/Trainee Signature	Address 22813 60+1 DVIV + WW
riller or trainee License No. 1207	City, State, Zip <u>Ktari wood wal</u>
(If TRAINEE,	Contractor's
Driller's Liceased No.	Registration No. <u>AIDVIDIGUARE</u> Date 10 0708
Driller's Signature	Ecology is an Equal Opportunity Employer.

ITTRAINEE, Driller's Licensed No. Driller's Signature

ECY 050-1-20 (Rev 3/05)

Single-continue to the first that the second control of the second control of the second control of the second	tilepistolis lossestolores mentre se man en energy en en en en en	
	30	3141
	WELL R	
Construction/Decommiss	ion ("x" in circl	e)
♥ Construction		77.73.73.7
O Decommission ORIGIN		TON Notice
of Inte	ent Number	
PROPOSED USE: Domestic DeWater Imigation		☐ Municipal ☐ Other
TYPE OF WORK: Owner's number	r of well (if more than o	one)
New well	Method : ☐ Dug ☐ Cable	☐ Bored ☐ Rotary €
DIMENSIONS: Diameter of well	6 inches, drilled	200 ft.
Depth of completed	well <u>200</u>	ft_
CONSTRUCTION DETAILS		
Casing B Welded	Diam. from	ft. to S
☐ Threaded	" Diam. from	fl. to
Perforations: MYes D No		
Type of perforator used _ 5a.w		· · · · · · · · · · · · · · · · · · ·
SIZE of perfs in by 4	in, and no, of perfy	(60) from <u>140</u> f
Screens: Yes No C	K-Pac Location	
Manufacturer's Name		
Турс	Model N	
Diam. Slot size Slot size	from from	ft. to ft. to
1200E		H. 10

Bennett Lot 8

WATER WELL REPORT Original & 1" copy - Ecology, 2" copy - owner, 3" copy - driller	CURRENT Notice of Intent No. W252181		
E C B E O C Y	Unique Ecology Well ID Tag No. Rt 229		
Construction/Decommission ("x" in circle) Struction	Water Right Permit No.		
O Decommission ORIGINAL INSTALLATION Notice	Property Owner Name Ques Benneth		
of Intent Number	Well Street Address 31720 19 th Or NIN		
PROPOSED USE: Domestic	City Stanway County Shahamish		
☐ DeWater ☐ Imgation ☐ Test Well ☐ Other	Location 521/4-1/4 NB4 Sec 2 Twn 32R 4 Girde		
TYPE OF WORK: Owner's number of well (if more than one)	WWW case		
Method □ Dug □ Bored □ Driven □ Deepcned □ Driven □ Rotary □ Jetted	Lat/Long (s, t, r Lat Deg Lat Min/Sec		
DIMENSIONS: Diameter of well 6 inches, drilled 200 ft. Depth of completed well 200 ft.	Still REQUIRED) Long Deg Long Min/Sec		
CONSTRUCTION DETAILS	Tax Parcel No. <u>610 757 60000 800</u>		
Casing B Welded 6 Diam from 0 ft. to 80 ft. fnstaffed: F Liner installed 5 Diam from 20 ft. to 200 ft.			
☐ Threaded "Diam. from ft. to ft.	CONSTRUCTION OR DECOMMISSION PROCEDURE		
Perforations: © Yes © No Type of perforator used Saw	Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of		
SiZE of perfs 18 in. by 4 in. and no. of perfs/100 from 140 ft. 1020 Q	information, (USE ADDITIONAL SHEETS IF NECESSARY.) MATERIAL FROM TO		
Screens:	dignt top topsaidy 0 2		
Manufacturer's Name			
Type Model No. Diam, Slot size from ft. to ft. Diam. Slot size from ft. to ft.	tan clay 2 10		
Diam. Slot size from ft. to ft. Gravel/Fifter packed: Yes No Size of gravel/sand	tan +111 10 14		
Materials placed from ft. to ft.			
Surface Seal: Yes O No To what depth? 20 ft. Material used in seal Ben 11 No-1 + Chip 5	bray longler mant (+111) 14 20		
Did any strata contain unusable water? Yes No	CH MYNTO COTS + GOND 20 67		
Type of water? Depth of strata			
Method of sealing strata off	tan soft shale 67 86		
PUMP: Manufacturer's Name (FOC) \ U H.P.			
WATER LEVELS: Land-surface elevation above mean sea level ft.	brus 5ams ton 271n 76 155		
Static level 142 ft. below top of well Date 62508 4	Cray Corse Sandstone 155 167		
Artesian pressurelbs. per square inctr Date	1 K 0 2,5 LAM		
Artesian water is controlled by	Gray Fine Sandstone 167 200		
WELL TESTS: Drawdown is amount water level is lowered below static level			
Was a pump test made? If Yes I No If yes, by whom? Dec 1 1	RECEIVED		
Yield: S: S gal/min with 40 ft. drawdown after 2.2 hrs. Yield: gal/min, with ft. drawdown after , hrs.			
Yield: 2 gal./min. with ft. drawdown after 45 hrs.	JUL 2 2 2008		
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water.level)	DEPT. OF ECOLOG		
Time Water Level Time Water Level Time Water Level 11:50 1148 440 153 4130 150	well Flow rust 26 pm DFT. OF ECULO		
11:50 148 440 153 430 150			
Date of test 6 30 0 8			
Bailer test S gal./min. with 4/0 ft. drawdown after 22 des.			
Airtest gal/min, with stem set at ft. for hrs.			
Artesian flow g.p.m. Date			
Temperature of water Was a chemical analysis made? Yes No	(2.08		
	Start Date 6 20 08 Completed Date 6 29 08		
WELL CONSTRUCTION CERTIFICATION: I constructed and/or acc			
Washington well construction standards. Materials used and the informatio			
Driller Engineer Traince Name (Frim)	Drilling Company 199111114 and Drugging Inc. Address 22613 Late Drug Williams		
Driller/Engineer/Trainee Signature	City State Zin S HAMP (MOCH		

l s	start Date 63/08 Completed Date 7.3/08
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept	responsibility for construction of this well, and its compliance with all
Washington well construction standards. Materials used and the information of	
ONDriller Engineer Trainee Name Print OTO 10 OTO 17 C	Drilling Company Al Drilling and Diggikilna
Wer/Engineer/Trainee Signature	Address Porox 1207
riller or traince License No. 1297	City, State, Zip <u>6 tanwow</u>
IF TRAINEE,	Contractor's
Driller's Licensed No.	Registration No. A 10 × 10 > 10 5 60 1- Date 73/08
Driller's Signature	Ecology is an Equal Opportunity Employer.

ECY 050-1-20 (Rev 3/05)

Driller's Signature

Spane

CURRENT

Notice of Intent No.



Čo:

Construction/Decommission ("x" in circle)	Unique Ecology Well ID Tag No. 120		
D Construction	Water Right Permit No.		SO41
O Decommission ORIGINAL INSTALLATION Notice	Property Owner Name 5 m 50	gn-e	
of Intent Number	Well Street Address 31628 19	+ DQU	w
PROPOSED USE: Domestic	City 5-anwood County 5	no hon	nish
	Location 521/4-1/4 //B)/4 Sec 2 Twn32		
TYPE OF WORK: Owner's number of well (if more than one) So New well D Reconditioned Method: D Dug D Bored D Driven		M.Ni	4 one
Method: D Dug	Lat/Long (s, t, r Lat Deg Lat	Min/Sec_	
DIMENSIONS: Diameter of well 6 inches, drilled 80 ft. Depth of completed well 80 ft.	Still REQUIRED) Long Deg Long	ng Min/Sec	:
CONSTRUCTION DETAILS	Tax Parcel No. 010 757 000	مرم هذ	<u> </u>
Casing & Welded 6 Diam from 5 ft. to 40 ft. Installed: Cliner installed 2 Diam from 8 ft. to 5 ft.	CONSTRUCTION OR DECOMMISSION	PROCEDI	RE
Threaded Diem from ft. to ft. Perforations:	Formation: Describe by color, character, size of material and		
Type of perforator used South	anture of the material in each stratum penetrated, with at least	one entry for ea	
SIZE of perfs 4 in. by 4 in. and no. of perfs 10 from 40 ft. to 80ft.	information. (USE ADDITIONAL SHEETS IF NECES MATERIAL	FROM	то
Screens: 🗇 Yes 💆 No 🖂 K-Pac Location	ton topsoid	rnom O	2
Manarfacturer's Name	1011		*>
Type Model No. Diam. Slot size from ft. to ft.	dignt tan conclor mon toll	2	18
Diam. Slot size from ft. to ft.			
Gravel/Filter packed: Yes No D Size of gravel/sand Materials placed from ft. to ft.	Bras till	18	34
			<u> </u>
Sarface Seaf: Ves 'O No To what depth? /8 ft. Material used in seal 8-en + 1001+ Ch 15	Grici Saw Ston- 71ng	34	36
Did any strata contain unusable water? Ci Yes Ci No	Gray Corsa saw & bon-	36	44
Type of water? Depth of strata Method of sealing strata off			
PUMP: Manufacturer's Name 6-0es 10	bray sawston	44	80
Type: 50 B HP2	DEOGNA	· · · · · · · · · · · · · · · · · · ·	
WATER LEVELS: Land-surface clevation above mean sea levelft.	RECEIVED		ļ ———
Static level (22) ft. below top of well Date 3 2909	400		
Artesian pressure lbs. per square inchr Date	APK 29 2009		
Artesian water is controlled by	Ω'a-4 · -		
(cap, valve, ctc.)	Dept of Ecology		
WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test made? Dryes	WR-NWRO		
Yield: 1.5 gal/min with 50 ft drawdown after 24 hrs.	Pumptiest 2160 ballior	`	
Yield: gai/min. with ft. drawdown after ins.	in a 24 hr Dyriod		
Yield gai/min. with ft. drawdown after hrs.			
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)			
Time Water Level Time Water Level Time Water Level	÷		
Date of test			
Bailer testgal/min. withfl, drawdown afterlus.	·		
Airtest gal/min with stem set at the for hrs.			
Artesian flow g.p.m. Date			
Temperature of water Was a chemical analysis made? A Yes	21000		74/201
	Start Date 3 / O 9 Completed	Date	2409

A spiniston wen engrace	non standards			
☐ Driller ☐ Engineer ☐ Traines	Name (Print)	Dont	> 130+12	Jan
Driller/Engineer/Trainee Signature	1	DULL		· •
Oriller or trainee License No.	1297			
IITRAINEE,				
Driller's Licensed No.	-			

Drilling Company 420111 M and Digg the The	
Address PO BOX 1207	
City, State, Zip Stringsond was	

1 Drid 1940 RD Date 4 1909

	TO SU VADEL S (D)	(1)
WATER WELL REPORT Original & 1 st copy - Ecology, 2 nd copy - owner, 3 nd copy - driller	CURRENT Notice of Intent No. <u>U) 26892</u>	0
E C 0 L 0 C Y Construction/Decommission ("x" in circle)	Unique Ecology Well ID Tag No. <u>Bat</u>	
Construction		
 Decommission ORIGINAL INSTALLATION Notice 	Water Right Permit No. Property Owner Name Karana See	200 B-19
of Intent Number	Well Street Address 20t 11 19th	
PROPOSED USE:	City Stanwood County Snc	
	Location 5 6 14-1/4 1/6/14 Sec 2 Twn 32 H	
TYPE OF WORK: Owner's number of well (if more than one) DET New well	j	WWM one
Deepened Deepened Detect	Lat/Long (s, t, r Lat Deg Lat I	
DIMENSIONS: Diameter of well 6 inches, drilled 225. Depth of completed well 223+R	Still REQUIRED) Long Deg Long	g Min/Sec
CONSTRUCTION DETAILS Casing Welded	Tax Parcel No. 010 757 000-	211-00
Installed: D Liner installed 45 Diam. from -5 ft. to 288 ft.	CONSTRUCTION OR DECOMMISSION	PROCEDURE
D Threaded Diam. from ft. to ft. Perforations: D Yes D No.	Formation: Describe by color, character, size of material and st	
Type of perforator used 50 kl	nature of the material in each stratum penetrated, with at least or information. (USE ADDITIONAL SHEETS IF NECESS	
SIZE of perfs 3/16 in. by 5 in. and no. of perfs/Odfrom 160th to 228	MATERIAL	FROM TO
Screens: Yes TNo K-Pac Location Manufacturer's Name	Dark Brown Topsoil	0 3
		12 5
Type	210ht fan San) sit Rock 5	12 5
Convertibilities analysis of Vac of No. O Cine of annual land	ton lose lor most firm	5 25
Materials placed from fl. to ft.		
Surface Seal: A Yes A No To what depth? / 9 ft. Material used in seal Ron 11101+2 Chips	71 ne usuy sandstone	25 40
Did any strata contain unusable water?	COYS = (FYU) Sand Stone	40 42
oe of water? Depth of strata	COST FIRM SAWS HOLD	
thod of sealing strata off	Fine Frui sandatona	42 130
PUMP: Manufacturer's Name ACO		
	tan corse	130 150
WATER LEVELS: Land-surface elevation above mean sea levelft. Static level	The state of the s	150 180
Artesian pressure lbs. per square inchr Date	7-In- IT-ray	
Artesian water is controlled by	COrce bread	180 185
WELL TESTS: Drawdown is amount water level is lowered below static level		
Was a pump test made? See Service If yes, by whom? Dull V	Fine Orraci	185 223
Yield: 5 gal/min with 3.5 ft drawdown after hrs. Yield: 8 gal/min with 2.5 ft drawdown after hrs.	1 18 8010	
Xield: gal/min. with ft. drawdown after hrs.	1. hour insetwent of	111111111111111111111111111111111111111
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)	1/19 2010	1 100
Time / Water Level / Time Water Level / Time / Water Level	1000mm 打成了"平	175 ST 175 C
a company of the contract of t	7/cm/ mate & to 2 & 51 fe	
	7/00/ rate & to 2 \$ 16	75
Date of test Bailer test B gal/min. with 35 ft. drawdown after / hrs.	rechara rate 5/2005 14	6840215
Airtest gal/min. with stem set at ft, for hrs.	axtor 300 6011100 5	
Artesian flow g.p.m. Date		
Temperature of water Was a chemical analysis made?	100	1 2 - 2 - 1/2
	Start Date 1 8 2010 Completed	Date 1 20 2010
WELL CONSTRUCTION CERTIFICATION: I constructed and/or acce		
Washington well construction standards. Materials used and the information Priller □ Engineer □ Trainee Name (Print) □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □		
riller Engineer Trainee Name (Print) Oct.)	Address PO BOX 100 7	214414
briller or trainee License No	City, State, Zip Stan wood	
fTRAINEE,	Contractor's	
Oriller's Licensed No.	Registration No. AIDYID1942QE D	ite <u>120 2010</u>
Oriller's Signature	Ecology is an Equ	al Opportunity Employer.

Giren lot 12 371 709 CURRENT WATER WELL REPORT Original & I" copy - Ecology, 2nd copy - owner, 3nd copy - driller Unique Ecology Well ID Tag No. _ Construction/Decommission ("x" in circle) Water Right Permit No. **©** Construction O Decommission ORIGINAL INSTALLATION Notice Property Owner Name K-UIN of Intent Number Well Street Address 20t 12 Domestic ☐ Industrial City stanwood County Snohom 1 ☐ Imigation ☐ Test Well Other. ☐ DeWater Location SE1/4-1/4/14 Sec 2 Twn 2 R TYPE OF WORK: Owner's number of well (if more than one) Method: ☐ Dug E Cable ☐ Driven Lat/Long (s, t, r Lat Deg Lat Min/Sec DIMENSIONS: Diameter of well 6 inches, driffed 276 ft. Still REQUIRED) Long Deg Long Min/Sec_ Depth of completed well 276 Tax Parcel No. 10757 000 012 00 CONSTRUCTION DETAILS ₩clded Diam. from 4/ ft. to 10 ft to 27 6 Installed: D. Liner installed 4 Diam. from. CONSTRUCTION OR DECOMMISSION PROCEDURE Formation: Describe by color, character, size of material and structure, and the kind and Perforations: Yes I No nature of the material in each stratum penetrated, with at least one entry for each change of Type of perforator used ____ 59 CL information. (USE ADDITIONAL SHEETS IF NECESSARY.) SIZE of perfs 3/6 in by 4 in and no. of perfs 100 from 100 ft. to 176 FROM MATERIAL ☐ Yes 🗷 No ☐ K-Pac Location Slav V. to Psay Manufacturer's Name 26 Corc lorman 6 Model No -1 V M Slot size Diam. from 26 Diam. Slot size ft to FINE OWOULL BANDS from ☐ Size of gravel/sand Gravel/Filter packed: ** Yes Materials placed from 76 Surface Seal: Y Yes D No To what depth? Bentinos Material used in seal 86 Did any strata contain unusable water? **≥**No ☐ Yes Type of water? Depth of strata Method of scaling strata off PUMP: Manufacturer's Name WATER LEVELS: Land-surface elevation above mean sea level 82010 __ fi. below top of well Date _ 1 Static level RECEIVED lbs. per square inch Date DEPARTMENT OF ECOLOGY Artesian pressure Antesian water is controlled by (cap, valve, etc.) WELL TESTS: Drawdown is amount water level is lowered below static level No If yes, by whom? Was a pump test made?

Yes NATER RESOURCES PAUGRAN _gal./min_ with Yield: ff. drawdown after gal./min. with Yield: ft, drawdown after bes WPO Yield: gal/min with ft, drawdown after hrs. Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level) Water Level Water Level Water Level 20 construction Bailer test / O gai /min. with ___ 176 ft. drawdown after gal./min. with stem set at ____ Artesian flow g.p.m. Date recoverovernight 27 Was a chemical analysis made? 🗷 Yes 🗅 No Temperature of water

76

86

17O

176

Completed Date / Co

· · · · · · · · · · · · · · · · · · ·	
WELL CONSTRUCTION CERTIFICATION: I constructed and/or accep	t responsibility for construction of this well, and its compliance with all
Washington well construction standards. Materials used and the information is	reported above are true to my best knowledge and belief.
Driller Engineer Trainee Name (Print) DUI Driller/Engineer/Trainee Signature	Drilling Company A) Drilly a No Digging Inc
Driller/Engineer/Trainee Signature	Address 22813 WOTH DIVE VW
Driller at trainee License No. 1297	Address 22813 With Dive Val City, State, Zip Stan wood War 98292
(II TRAINEE,	Contractor's
Driller's Licensed No.	Registration No. ADDVID 1942 REDate \$1.2 2010
Driller's Signature	Ecology is an Equal Opportunity Employer.

Start Date 1228 09

File Original and First Copy with Department of Ecology Second Copy — Owner's Copy Third Copy — Driller's Copy

21252 Tyee Rd. WATER WELL REPORT

STATE OF WASHINGTON

	L'6 0 24 7 .		
(1) OWNER: Name Don Neff	Address Tyco Rd Conway Hill.	Ma. V	ernos
LOCATION OF WELL: County Stanff	_ SE 4 NW 4 Sec 27 T/S		
ring and distance from section or subdivision corner	— <u>— 1818 14 181 14 Sec. Бал. Г. Т.</u>	N., R	W.M.
Ting and distance from Section of Subdivision corner			
(3) PROPOSED USE: Domestic [] Industrial [] Municipal []	(10) WELL LOG:		
Irrigation [] Test Well [] Other [].	Formation: Describe by color, character, size of materia show thickness of aquifers and the kind and nature of stratum penetrated, with at least one entry for each c	I and structhe material	cture, and al in each formation.
(4) TYPE OF WORK: Owner's number of well (if more than one)	MATERIAL	FROM	то
New well 🔟 Method: Dug 🗌 Bored 🗍	Sandy topsoil	0	<i>t</i> ;
Deepened Cable Driven	Tan clay & grave1	. 4	1.5
Reconditioned [Rotary [] Jetted [Gray clay & gravel	15	<u>მ</u>
(5) DIMENSIONS: Diameter of well inches.		80	94
Drilled 338 ft. Depth of completed well 338 ft.	Brown clay & peet Gray gravel, clay, sand, & see-	30	
40. 40. 40.		92	125
(6) CONSTRUCTION DETAILS:	Gray sandstone	125	<u>4&/</u> 130
Casing installed: 6 "Diam from +2 ft. to 123 ft.	Brown siltstone & scattered class-	3.4.3	130
Threaded []ft. to ft.	shells	130	230
Welded 🗓			235
Perforations: Yes No [8]		235	
Type of perforator used	Brown siltstone	243	245
SIZE of perforations in, by in.	Gray fine sandstone	290	<u>290</u> 291
perforations from ft. to ft.	Coal		
perforations from ft. to ft,	Brown siltstone	291	311
perforations from ft. to ft.	Coal	312	312
Screens: Yes No 🖔	Brown siltstone	3121 316	319
Manufacturer's Name	Gray stiż siltstone	210	
Type Model No			
Diam. Slot size from ft. to ft.			
Dlam. Slot size from ft. to ft.			
Gravel packed: Yes No Y Size of gravel:		-	
Gravel placed from ft. to ft.			
Surface seal: Yes No To what depth? 18 ft.			
Material used in seal Puddeling Clay			
Did any strata contain unusable water? Yes No			
Type of water? Depth of strata Method of sealing strata off			
			-
(7) PUMP: Manufacturer's Name Blataly		115311	
туре: 4/11/9 нр 1]
8) WATER LEVELS: Land-surface elevation	MAY 1 2 19	3/∽	
tatic level 85 ft below top of well Date 7/6/31			
tatic leveltt. below top of well Datett.			11
Artesian water is controlled by	1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1		
(Cap, valve, etc.)			
9) WELL TESTS: Drawdown is amount water level is	21/ 44 7		
lowered below static level Vas a pump test made? Yes □ No ☑ If yes, by whom?	Work started 7/6 1981 Completed 7	/v	., 19
Tield: gal./min. with ft. drawdown after hrs.	WELL DRILLER'S STATEMENT:		
n n n	This well was drilled under my jurisdiction a	nd thic r	oport ic
n 'n 'n n	true to the best of my knowledge and belief.	nu was r	ehore is
ecovery data (time taken as zero when pump turned off) (water level	-		
measured from well top to water level)	NAME Haves Well Drilling & Pum	ps, La	C.
Time Water Level Time Water Level Time Water Level	T #T #T1# #T	ype or pri	
	Address 1413 Colony Rd.	Bog	
	Address 1913 Colony Rd.	7	7
	Morro Maria	1.010	H
Date of test	[Signed] (Well Driller)	1361	." ****
rtesian flowg.p.m. Date	,		,
emperature of water	License No. 762 Date 12/4	<u> </u>	19.

Water Right Permit No.

File Original and First Copy with Department of Ecology Second Copy - Owner's Copy Third:Copy - Driller's copy

WATER WELL REPORT

STATE OF WASHINGTON

Notice of Intent W151526 19
UNIQUE WELL I.D. # ABD271

(1) OWNER: Name Monte Ruble	Address 21614 Tyee Rd, MtVernon, WA 98274		
(2) LOCATION OF WELL: County Skanit	- NE 1/4 NE 1/4 Sec 27 T.		
STREET ADDRESS OF WELL (or negrest address) same			
TAX PARCEL NO.	- 33/48-27	AI	
(3) PROPOSED USE: X Domestic Industrial Municipal	(10) WELL LOG or DECOMMISSIONING PROCED		IPTION:
☐Irrigation ☐Test Well ☐Other	Formation: Describe by color, character, size of material and structure.		
DeWater	nature of the material in each stratum penetrated, with at least one entry of information. Indicate all water encountered.	for each change	•
(4) TYPE OF WORK: Owner's number of well (If more than one)	MATERIAL	FROM	TO
X New Weil Method: Despensed Dug Bored	topsoil	0	1
Reconditioned Cable Driven	brown sandy clay	1	20
Decommission X Rotary Jetted	gray sandy clay	20	40
5) DIMENSIONS: Diameter of well 8 Inches.	brown soft siltstone	40	<u>51</u>
Onited 340 feet. Depth of completed well 340 ft.	gray sandstone	51	. 64
	brown siltstone	64	75
6) CONSTRUCTION DETAILS:	gray sandstone	75	110
Casing installed: XWelded 6 Diam. from +2 ft. to 58 ft.	gray sandstone water 1/2gpm	110	111
X Liner installed 4 " Diam. from 40 ft. to 340 ft.		124	124 134
Threaded " Diam, from ft. to ft.	gray sandstone	134	151
Perforations: XYes □No	brown sittstone soft	151	160
Type of perforator used drill	gray sandstone	160	210
SIZE of perforations 1/4 in. by 1/4 in.		210	216
4 perforations from 110 ft. to 111 ft.	gray sandstone	216	269
4 perforations from 270 ft. to 271 , ft.		269	270
perforations from tt. to ft.	gray course sandstone	270	<u> 298</u>
	gray course sandstone water	298	299
Screens: X Yes No K-Pac Location	gray course sandstone	299	321
Manufecturer's Name monoflex Type nuc Model No.	gray sandstone	321	
Type pvc	chale tron 100	 	
Diam. Slot size from fit to the	shale trap 109	·	
	shale trap 160		
\textition in the proper left of the proper left o			
		REC	EIV
Surface seal: XYes No To what depth? 18 ft.			1 Y
Material used in seal bentonite	Located in complience with sec 12-48 supplie	S-NOH	1 4 20
Did any streta contain unusable water? Yes XNo	by information supplied by owner.		T 7 70
Type of water? Depth of strata Method of sealing strata off	· · · · · · · · · · · · · · · · · · ·	DEPT 0	E FOO
	02211	γ <u>ι ι ψ</u>	
PUMP: Manufacturer's Name	V25.11		
Type: H.P.			
WATER LEVELS: Land-surface elevation	Work Started 10/02/2002 . 19. Completed 10/2	0/0003	10
(457 MSL) above mean sea levelft		812002	, 10
Static level 63 ft. below top of well Date 10/31/2002	WELL CONSTRUCTION CERTIFICATION:		
Artasian preseure ibs. per equare inch Date	I constructed and/or accept responsibility for construction	of this well, en	d its
Artsean water is controlled by (Cap, valve, etc)	compliance with all Washington well construction standard		
	and the information reported above are true to my best known	wedge and or	eret
WELL TESTS: Drawdown is amount water level is lowered below static level	Type or Print Name Brannon Hopke Licer	se No. 1825	5
Was a pump test made? XYes No If yes, by whom? Aquatech	(Licensed Driller/Engineer)	X5 8. 17	
Yield: 9.6 get Irnin, with 187 ft drawdown efter 5 hrs.	Trainee Name Licen	se No.	
Yield: 9.5 gal.fmin. with 72 ft. drawdown after 5 hrs.			
Yield: 3 gal./min. with 6 ft, drawdown after 4 hrs.	Drilling Company Aquatech Well Drilling & Pump	s inc	
Recovery data (time taken as zero when pump turned off) (water level messured	1 (5)	61	
from well top to water level)	(Signed) Licen (Domed Order/Engineer)	se No. <u>1825</u>	
Time Water Level Time Water Level Time Water Level			
0 269 1 265.5 2 261 3 259.5 4 257.1 5 254.9	Address 2722 Butler Crk Rd SedroWoolley Wa	98284	
	Contractor's		40
	Registration No. AQUATWD040K4 Date 11/	08/2002	, ta
Date of test 11/07/2002 Bailer test cat/min with ft drawdown after has	(USE ADDITIONAL SHEETS IF NECE	SSARYI	
Bailer teetgal./min. with ft. drawdown after hrs. *Intest gal./min. with stem set at 335 ft. for 1 hrs.	`	•	Eo.
besien flow g.p.m. Date	Ecology is an Equal Opportunity and Affirmative Action special accommodation needs, contact the Water Res		
	openial accommodation needs, contact the vyater res	CONTROL FION	pantal

03 RO1 275 SMSL

(USE ADDITIONAL SHEETS IF NECESSARY)

File Original and First Copy with Department of Ecology Second Copy—Owner's Copy
Third Copy—Oriller's Copy

WATER WELL REPORT

STATE OF WASHINGTON

22/45 281

піга Сору—Огінет в Сору	Water Right Famil No.	
DWNER: Name / Co. A. A. D. Co. A.	Address 27/4 3 3 3 4 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2	e)
2) LOCATION OF WELL: County 200 Control of County	Sec T IN A	
2a) STREET ADDDRESS OF WELL (or nearest address)	3100 St AF Street	
3) PROPOSED USE: Domestic Industrial Municipal DeWater Test Well Other	(10) WELL LOG or ABANDONMENT PROCEDURE DESCRI	
1) TYPE OF WORK. Owner's number of well	thickness of aquifers and the kind and nature of the material in each stratum pe with at least one entry for each change of information.	netrate
(It more than one)	MATERIAL FROM	то
Abandoned New well Method: Dug Bored Deepened Cable Driven Reconditioned Rotary Jetted	10,2 50.1	7
) DIMENSIONS: Diameter of wellinches.	Bury May agreed it	5/2
Drilled Sac feet. Depth of completed well 500 ft.		
) CONSTRUCTION DETAILS:	Barrier Extent time 2	1, 12,
		- -
Casing installed: Dlam. from ft. to ft.	Gray Elast Line 50	1 3
Welded Diem. from ft. to ft. to		<u> </u>
Threaded	shab and bear 1800	
Perforations: Yes No No		
Type of perforator used	Gran Syndshaz 1850	⊋ý₹.
SIZE of perforations in. by in.		
perforations fromft. toft.	shale duck how 240.	301
perforations fromft. toft.		- A . T . T
perforations fromft. toft.	6-44 sands love 245	4.0.
		<u> </u>
Screens: Yes No.		
*Aanufacturer's Name	Miles beging sand to a 300	¥-1.5
pe Model No		
Jiam. Slot size from ft. to ft.		
DiamSlot sizefromft. toft.		-
Gravel packed: Yes No Size of gravel		
Gravel placed from ft. to ft.		
723	149 AD 151	
Surface seal: Yes NO	#:	
Material used in seal		3 1
Did any strata contain unusable water? Yes No		-
Type of water?Depth of strata		
Method of sealing strata off		
PUMP: Manufacturer's Name		
WATER LEVELS: Land-surface elevation above mean sea level		
Static level 50 ft. below top of well Date		
Artesian pressurelbs. per square inch Dete		
Artesian water is controlled by (Cap, valve, atc.))		
	Work started	19
WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test made? Yes No if yes, by whom?		
Yield: gal./min. with ft. drawdown after hrs.	WELL CONSTRUCTOR CERTIFICATION:	
gai./min. with	I constructed and/or accept responsibility for construction of this	
	and its compliance with all Washington well construction stan Materials used and the information reported above are true to m	
Recovery data (time taken as zero when pump turned off) (water level measured	knowledge and belief.	
from well top to water level)	$\frac{d}{dt}$	
Time Water Level Time Water Level Time Water Level	NAME MAY WAR I LEAVE I MAN	
	(PERSON, FIRM, OR CORPORATION) (TYPE OR PR	HNT)
	Address 1673 200 Address	
<u> </u>		
Date of test	(Cinnad)	
Self-self-self-self-self-self-self-self-s	(Signed) License No	
Bailer test gal./min, with ft. drawdown after hrs.		
1 · · · · · · · · · · · · · · · · · · ·	Contractor's Registration	
-1	Contractor's Registration No	9

ECY 050-1-20 (10/87) -1329-

1331

k . * [] MELL REPORT STATE OF WASHINGTON Address 1019 WARREN STREET MOUNT VERNON, WA 98273-(1) OWNER: Name NICHOLSON, BILL C1 LOVATION OF WELL: County SNOHOMISK - SI (2a) STREE; ADDRESS OF WELL for nearest address) 3205 324TH STREET N.W. ************************** T 32 V., R 4E WM SH 1/4 NE 1/4 Sec 3 (10) HELL LOG 32/48-39/ Formation: Describe by color, character, size of material and structure, and show thickens 131 PROPOSED USE: DONESTIC (4) TYPE OF NORK: Dwner's Humber of well (If more than one) Method: ROTARY and structure, and show thickness of anuifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change in formation. unameter of well 6 inches
printed 260 ft. Depth of completed well 260 ft.

66) CONSTRUCTION DETAILS:
Lasing inchalled. MATERIAL TOPSOIL TAN CLAY GRAY CLAY - SEEPAGE GRAY GRAYEL & SOME CLAY Tasing installed: WELDED Dia. from 43 Dia. from 260 Dia. from ft. to 60 GRAY GRAVEL & CLAY GRAY CLAY 44 49 58 87 103 132 150 178 204 207 TAN CLAY & SCATAD, GRAV. GREEN-SAND & CLAY GRAY GREEN SANDSTONE Perforations: YES Type of perforator used SXILL SAW SIZE of perforations 1/8 80 perforations from 240 ft. in, by 6 ia. ft. to 260 GRAY SANDSTONE & CLAM SHELLS perforations from ft. to cerforations from GRAY SANDSTONE GRAY SANDSTONE Screens: NO GRAY SILTSTONE Manufacturer's Name GRAY BROWN SANDSTONE Hodel No. GRAY BROWN SILTSTONE CLAM SHELLS slot size GRAY SANDSTONE Dìaa. Dian. slot size from GRAY SANDSTONE & WATER GRAY HARD SANDSTONE Gravel packed: NO Size of gravel Gravel placed from ft. to To what depth? 18 Material used in seal PUDDELING CLAY Old any strata contain unusable water? NO Type of water? The Department of Ecology does NOT Warrar Depth of strata Method of sealing strata cff 17: PUMP: Manufacturer's Name Type (S) WATER LEVELS: (380 MSL) Static level Land-surface elevation above mean sea level ... ft. ft. below top of well Date 03/04/91 Artesian Pressure Artesian *** lbs. per square inch Cate Artesian water controlled by Nork started 02/28/91 | Completed 03/04/91 19) WELL TESTS: Drawdown is amount water level is lowered below WELL CONSTRUCTOR CERTIFICATION: static level. Was a pump test made? NO yield: gal./min with I constructed and/or accept responsibility for con-struction of this well, and its compliance with all If yes, by whom?
ft. drawdown after Washington well construction standards. Haterials used and the information reported above are true to my test knowledge and belief. Recovery data Time Water Level Time Water Level Time Water Level HAME HAYES DRILLING, INC. (Person, firm, or corporation) (Type or crint) ADDRESS 556 ERSHIG RD. 1 80W, WA est { / gal/min. ft, drawdown after hrs. gal/min. w/ stem set at 255 ft. for 1.5 hrs. Date of test ISIGNEDI BA Bailer test icerse No. 1825عے Air test 12 Artesian flow g.o.a. Date Contractor's Was a chemical analysis made? NO Registration No. HAYESDI106J5 lemperature of water Gate 03/14/91

CKY OD Inventored Well BEGGE

See CRYDD Whebroks for the EDUCATION

03 A21 File Original and First Copy with Department of Ecology Second Copy — Owner's Copy Third Copy — Driller's Copy WATER WELL REPORT Application No. . 1221623 STATE OF WASHINGTON (1) OWNER: Name A LOCATION OF WELL: County...N., R......W.M. ng and distance from section or subdivision corner 32 (10) WELL LOG: (3) PROPOSED USE: Domestic 🗆 Industrial 🗀 Municipal 🗀 Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation. Irrigation [Test Well [Other Owner's number of well (if more than one)..... (4) TYPE OF WORK: MATERIAL FROM Method: Dug New well Bored [] 1 <u>7485347</u> Cable [Deepened Driven [7] Ò ANDMINE Reconditioned [Rotary [Jetted 🔲 GRAUE (5) DIMENSIONS: Diameter of well inches. +HDrilled 220ft. Depth of completed well <u> 24) ft.</u> 1 8 11 m 才(致抗)5. 15. g 2 Madric (6) CONSTRUCTION DETAILS: Casing installed: ____ " Diam. from ?__ ..." Diam. from ft. to" Diam. from ft. to Welded 🗓 3 Perforations: Yes 🗆 No 📮 Type of perforator used ... in by in. SIZE of perforations perforations from _____ ft. to ____ perforations from ft. to ... perforations from ft. to Screens: Yes | No | Manufacturer's Name Туре... Model No..... Diam. Slot size from ft. to Diam. Slot size from ft. to ft. Gravel packed: Yes [] No [] Size of gravel: ft. to Gravel placed from Surface seal: Yes No To what depth? ... ft. Did any strata contain unusable water? Yes [] No 🗓 Type of water?.... Depth of strata.. Method of sealing strata off... (7) PUMP: Manufacturer's Name..... يارزر Type: .. (8) WATER LEVELS: Land-surface elevation above mean sea level.... Static level ft below top of well Date ...Ibs. per square inch Date... Artesian pressure ... Artesian water is controlled by..... (Cap, valve, etc.) Drawdown is amount water level is lowered below static level (9) WELL TESTS: Was a pump test made? Yes [] No [] If yes, by whom?... gal./min. with ft. drawdown after Yield: hrs.

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME ANAMANA LECC LICILIA	
(Person, firm, or corporation) (Type or print)	
Address O. P.OX 433	
2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
[Signed] ANG LAND	
(Well Driller)	

•

License No.....

ate of test .

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Water Level

Time

ft. drawdown after...

Water Level | Time

Artesian flow g.p.m. Date

pailer test gal/min, with

605 MSL

File Original and First Copy with
Department of Ecology
Second Copy—Owner's Copy
Third Copy—Driller's Copy
Third Copy—Driller's Copy

LOGODO 12254 STATE OF WASHINGTON Application No. 181720 1221541 STATE OF WASHINGTON Permit No. (1) OWNER: Name PARK Collins LOCATION OF WELL: County ing and distance from section or subdivision corner (10) WELL LOG: (3) PROPOSED USE: Domestic 🖾 Industrial 🗀 Municipal 🗇 Formation: Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation. Irrigation [Test Well [Other (4) TYPE OF WORK: Owner's number of well (if more than one). MATERIAL FROM more than one;

Method: Dug Bored Cable Driven New well Deepened Reconditioned [Rotary . Jetted | (5) DIMENSIONS: Diameter of well Drilled ft. Depth of completed well ft. (6) CONSTRUCTION DETAILS: Casing installed: "Diam, from 2 ft. to 30 ft. Threaded [] " Diam. from ft. to ft. Welded [] Perforations: Yes | No | Type of perforator used..... SIZE of perforations _____ in, by ____ in, _____ perforations fromft. to perforations from _____ ft. to ____ ft. perforations from _____ ft. to ____ Screens: Yes | No | Manufacturer's Name.... Model No..... ___ Slot size from ft. to ... Diam. ____ ft. to ____ ft. Gravel packed: Yes No No Size of gravel: ... Gravel placed from _____ ft. to Surface seal: Yes | No | To what depth? Did any strata contain unusable water? Yes Type of water? ____ Depth of strata__ Method of sealing strata off (7) PUMP: Manufacturer's Name Type: (8) WATER LEVELS: Land-surface elevation above mean sea level... ft. below top of well Date Artesian pressure _____lbs. per square inch Date. Artesian water is controlled by..... (Cap, valve, etc.) Drawdown is amount water level is lowered below static level (9) WELL TESTS: Work started 19 Completed Was a pump test made? Yes ... No ... If yes, by whom?... WELL DRILLER'S STATEMENT: ft. drawdown after Yield: gal./min. with hrs. ., ,, This well was drilled under my jurisdiction and this report is ,, true to the best of my knowledge and belief. Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level) NAME (Person, firin, or corporation) (Type or print) Time Water Level Time Water Level Time Water Level Address Addres Jate of test [Signed] (Well Driller) Bailer test gal/min. with ft. drawdown after... er miller of ecouser Artesian flow......g.p.m. Date..... License No.

Department of Ecology Second Copy — Owner's Copy Third Copy — Owner's Copy Third Copy — Order's Copy — Order's Copy — Order's Co	Washington	Z (U) -	Permit No.	.02°	160
1) OWNER: Name MENT	Address	2387	Streburg	1 rd	Mt
(2) LOCATION OF WELL: County SEASIT		_ SE S	E., s., 34 T.	3.3v., r	Z w1
Bearing and distance from section or subdivision corner					,
(3) PROPOSED USE: Domestic (Sandustrial Municipal [1]	(10) WELL	LOG: 33/	42-34	RT	
Irrigation [Test Well [Other [Formation: Der	cribe by color, char	acter, size of mater	ial and sir	ucture, at
(4) TYPE OF WORK. Owner's number of well	show thickness stratum penetra	cribe by color, char of aquifers and the ited, with at least o	the entry for each	change of	formatio
(4) TYPE OF WORK: Owner's number of well (If more than one)		MATERIAL		PROM	то
Deepened [] Cable [] Driven []	J Zo,	0 50cl		10	2
Reconditioned [] Rotary [] Jetted []			<i></i>	-	54
(5) DIMENSIONS: Diameter of well inches	01000	4 5 4-104	y clay	100	AO
Drilled 120 ft. Depth of completed well 120 ft.	(F/F)	2//	1/11/	1 20	Sin
(C) CONCEDION YERRANG.	1 — U 			1	70.
(6) CONSTRUCTION DETAILS:	Solva	Store		40	420
Casing installed: 6. Diam. from 6. to 7. t					
Welded Diam. from			<u> </u>	<u> </u>	
Postorition		10. The last of th		 	
Type of perforator used.	1			 	-
SIZE of perforations in. by in.	l			 	 -
perforations from ft. to ft.				<u> </u>	
perforations from				1	
Screens; Yes D No D				ļ	
Manufacturer's Name Model No Model No	l			 	
Diam. Slot size from ft. to man #.	ļ ———			ļ. —	
Diam. Siot size from ft, to ft,	ļ	·			
Gravel packed: Yes [] No [] Size of gravel:				 	
Gravel placed from ft. to ft.					· -
Surface scal: Yes No [] Townat depth?					
Material used in seal.				ļ	
Did any siraia contain unuasble water? Yes [] No [2]				 	
Type of water? Depth of strate. Method of sealing strate off.		····			73
				יי ייבו	
(7) PUMP: Manufacturer y Name 5C4-CCC Type: SUP HP 5			_ UU		F
137C			UCI	12 19	9
(8) WATER LEVELS: Land-surface elevation above mean sea level. Static level (8' the law top of well Date 266.					767A17767
Static level / (t, below top of well Date follow) Artesian pressure			DEPARTME NORTHY	NI OF B	COLO
Artesian water is controlled by			NORTH	1631 16	GIOIT
(Cap, valve, etc.)				 	
(9) WELL TESTS: Drawdown is amount water level is lowered below static level	Work started J	Uly 6 10 8	S Completed	Ju /	210.8
Was a pump test made? Yes [] No [If yes, by whom?					
Yield: gal/min. with ft. drawdown after hrs.		LER'S STATE			
, , , M		vas drilled under it of my knowled		and this	report is
Recovery data (time taken as zero when pump turned off) (water level		1	<i>`</i>	1/	
measured from well top to water level Time Water Level Time Water Level Time Water Leval	NAME	V-VDESS	ion We	illing	<u>^ (C</u>
THE PART PARE THE PAR		(Person, firm, or c	orporation) (Type or pt	int)
	Address	1412-20			<i>E[</i>
			////	•	
2 Date of test from the second	[Signed]	1 ent	(Well Driller)	er.	
Belles test gal/min, with ft. drawdown after hre. Artesian flow p.pm. Date	•	1367	Date JUG	15	æ

File Original and First Copy with 10072 WATER WEII

Notice of Intent <u>W135810</u>

pardnent of Ecology cond Copy - Owner's Copy	KWI FIX AAmeric 1/1ms	UNIQUE	WELLID.# AFP952
ird Copy - Orlier's copy	STATE OF WASHINGTON	Water Right Permit No.	33-4E-34P
) OWNER: Name John & Micheale Yengio		Fremali Lane, Mt. Vernor	ı. WA 98274
) LOCATION OF WELL: County Skagit (a) STREET ADDRESS OF WELL (or nearest	taddress) <u>same</u>	- SE 1/4 SW 1/4 Sec	34 T 33 N,R 4E WM

(1) OWNER: Name John & Micheale Yengich	Address 23734 Fremali Lane, Mt. Vernon, WA 98	274	
2) LOCATION OF WELL: County Skagit	- SE 1/4 SW 1/4 Sec 34 T		4F W N
(2a) STREET ADDRESS OF WELL (or nearest address) same			18
TAX PARCEL NO.	<u></u>		
(3) PROPOSED USE: X Domestic Industrial Municipal	(10) WELL LOG or DECOMMISSIONING PROCEDI		
☐Imgation ☐Test Well ☐Other	Formation: Describe by color, character, size of material and structure,		
DeWater	nature of the material in each stratum penetrated, with at least one entry of information Indicate all water encountered	A to 1 each chang	9
(4) TYPE OF WORK; Owner's number of well (if more than one)		T =====	
X) New Well Method	- MATERIAL	FROM	<u> 07</u>
☐ Deepened ☐ Dug ☐ Bored	topsoil	1 0	2
Reconditioned Cable Driven	brown clay gravel	2	15
Decommission X Rotary Jetted	gray clay gravel	15	<u> 26</u>
(5) DIMENSIONS: Diameter of well 6 inches	granite boulder	26	27_
Drilled 500 feet Depth of completed well 500 ft	gray gravel clay	27	44
	brown clay gravel	44	51
(6) CONSTRUCTION DETAILS:	gray clay gravel	51	62
Casing Installed: [X] Welded	gray sandstone	62	70
Will make metallist A " Diam from _40 ft to 500 ft	19.77	70	79
X Threaded Dlam, from ft. to ft.	igray surractions	79	90
	brown siltstone .	90	95
Perforations: Yes X No	gray sandstone	95	123
Type of perforator used	brown sandstone shells	123	131
SIZE of perforations in by in		131	134
perforations from ft. to ft.		134	135
perforations from ft to ft		135	170
perforations from ft to ft		170	174
	gray sandstone	174	211
Screens: XYes No K-Pac Location	brown siltstone	211	221
Manufacturer's Name Monoflex	brown fine sandstone	221	227
Type s.s. Model No	gray fine sandstone	22.7	248
Diam 4 Slot size 20 from 250 ft to 260 ft		248	252
Diam <u>4</u> Slot size <u>20</u> from <u>450</u> ft to <u>460</u> ft		252	255
Gravel/Filter packed: Yes XNo Size of gravel/sand	brown sandstone	255	265
Material placed from ft to ft.	gray fine sandstone	265	279
	brown fine sandstone shells	279	280
Surface seal: Yes No To what depth?ft.		280	301
Material used in seal	black basalt	301	302
Did any strata contain unusable water? Yes X No	brown siltstone layered basalt	302	314
Type of water? Depth of streta	gray fine sandstone	314	393
Method of seeling strate off	gray course sandstone shells	393	407
7) PUMP: Manufacturer's Name	gray fine siltstone	407	421
Type HP	black basalt	421	427
	Continued on next page	<u> </u>	
8) WATER LEVELS: Land-surface elevation	Work Started 07/18/2001 , 19 Completed 07/	24/2004	, 19
(379 K5L) above mean sea levelft		-11-001	
Static level 194' ft below top of well Date 07/26/200'	WELL CONSTRUCTION CERTIFICATION:		
Artesian pressure ibs per square inch Date	i constructed and/or accept responsibility for construction	of this well, a	nd tis
Artesian water is controlled by	compliance with all Washington well construction standar		
(Cap, valve, etc)	and the information reported above are true to my best kn	owledge and b	elief
3) WELL TESTS: Drawdown is amount water level is lowered below static level	To a Boutley Man		_
Was a pump test made? Yes XNo if yes, by whom?		nse No 214	<u> </u>
Yield: gal/mm with ft drawdown after his	(Licensed Onlier/Engineer)		
Yield gal/min with fit drawdown after hirs	Trainee Name Court 15005 Licer	nse No	
Yield. gal /min with ft drawdown after hrs.	Drilling Company Aquatech Well Drilling & Pum	ne Inc	
	Addressed to the continued of the contin		
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)	(Signed) WMM AOOR Licer	nse No 214	e
•	(Licensed Onlier/Engineer)	A14	2
Time Water Level Time Water Level Time Water Level	. ()		

 		
Date of test		
leiler test	gai lawn with the drawdown after h	ne
urtest 1/4	gal./min. with stem set at 500 ft. for 1 h	en.
rtesian flow	g.p.m. Date	
ammanshina of wester	Mine a chambral analysis and S TV-s TV	

Type or Print Name Wayne Logisdon License No 2146
(Licensed Onlier/Engineer)
Traines Name Voys Soop License No
Drilling Company Aquatech Well Drilling & Pumps Inc.
(Signed) Wall Hosp License No 2146
(Licensed Onlier/Engineer)
Address 2722 butler Crk Rd SedroWoolley Wa 98284

Registration No AQUATWD040K4

(USE ADDITIONAL SHEETS IF NECESSARY)

Ecology is an Equal Opportunity and Affirmative Action employer. For special accommodation needs, contact the Water Resources Program at (389) 407-6860. The TDD number is (360) 407-6006.

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ile Onginal and First Copy with	ELL REPORT Start Card No _		~~~	
epartment of Ecology econd Capy—Owner's Capy Michael De Sulf STATE OF	WASHINGTON Water Right Permit No.			
OWNER: Name JACK SPLAGUE	Address 2368 STALBIRA	o RO		
) LOCATION OF WELL: COUNTY SKAGIT a) STREET ADDDRESS OF WELL (or nearest address)	NW & 5E x sec 35 T	<u>33</u> ,,,	4 w.m.	
PROPOSED USE: Domestic Industrial U Municipal U Downster Test Well U Other U	(10) WELL LOG OF ABANDONMENT PROCEDURE DESCRIPTION Formation: Describe by color, character, else of material and atructure, and show			
TYPE OF WORK: Owner's number of well (if more than one)	thickness of southers and the kind and nature of the material in each stratum penetrate			
Abandoned New well	TOPSOIL MATERIAL	FROM	2_	
Reconditioned ☐ Rotary ☑ Jetted ☐ DIMENSIONS: Diameter of well	HARDLAN HARDLAN SAFT SANDSTONE	10	20	
Onstruction Details:	SANUSTOUE	82	362	
Casing installed:				
Perforations: Yes No No Type of perforator used				
SIZE of perforations				
perforations fromft. toftperforations fromft. toft.				
Screens: Yeal No. No. Manufacturer's Name		<u> </u>		
Type Model No. Diem	RECEIVED			
Diam Slot aize from ft. to ft. Gravel packed: Yes No Size of gravel	AUG 2 0 1990			
Gravel placed from	DEPT. OF ECOLOGY			
Material used in seal BENTON ITE Did any strate contain unusable water? Yes No.				
Type of water?				
PUMP: Manufacturer's Nems GNEUND FOS Type: SUB H.F. 1/2				
WATER LEVELS: Land-surface elevation above mean sea level (SS) PSL (t. below top of well Date 8-17-70.				
Artesian pressure	∀- <i>A</i> S N		. 57 0	
WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test made? Yes	WELL CONSTRUCTOR CERTIFICATION:	<u> </u>		
	I constructed and/or accept responsibility for cone and its compliance with all Washington well con Materials used and the information reported above	struction a	standarda.	

Contractor's
Replication
No. (Atl At.) (1) 19 | 4 | C. | Date

(USE ADDITIONAL SHEETS IF NECESSARY)

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)
Time Water Level Time Water Level Time Water Level

Driller's Signature

+
N
100

33-4E-27K

•	70655 Pleasepriet, sign and return	n to the Department of Ecology 3 3	45	771	n1	
	Water Well Report 1 2 2005 Original - Ecology, Int copy Owner, 2nd copy - driller Construction/Decommission	Current Notice of Intent No. W161054		<i>O</i> 11	111	
1	Construction/Decommission	Unique Ecology Well ID Tag No. AG				
	A Construction	Water Right Permit No.				
	Decommission ORIGINAL INSTALLATION Notice	Property Owner Name DENISE JANTZ				
	of Intent Number	Well Street Address 27644 Rose fd.				
	PROPOSED USE: MDomestic Industrial Municipal	CityMT. VERNON County SKAGIT				
	DeWater Imigation Test Well Other	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
	TYPE OF WORK: Owner's number of well (if more than one)	Location NW1/4-1/4 Sw 2/1 Twn 33 R 4 Cornel Circle WWM Cone				
	New well Reconditioned Method: Dug Bored Driven Deepened Cable Method: Dug Bored Driven Cable Method: Dug Bored Driven Jetted Jetted Jetted Dug Bored Driven Deepened Jetted Jet	Lat/Long (s, t, r Lat Deg Lat Min/Sec				
	DIATENSIONS: Diameter of well inches, drilled fl. Depth of completed well fl.	still REQUIRED) Long Deg Long Min/Sec				
	CONSTRUCTION DETAILS	Tax Parcel No. P 118081				
	Casing Bowelded Diam. from 22 ft. to 160 ft. Installed 25 Diam. from 24 ft. to 504 ft.				ר	
	ThreatledDiam. fromft, toft,	CONSTRUCTION OR DECOMMISSIO				
	Perforations: W Yes No DIC LINER	Formation: Describe by color, character, size of material and nature of the material in each stratum penetrated, with at least	one entry for e	ach change of		
	Type of perforator used <u>SKILL SAW</u> SIZE of perfs <u>B</u> in. by <u>He</u> in. and no. of perfs <u>300</u> from <u>40 k</u> to <u>56 k</u> .	information indicate all water encountered. (USE ADDITION	1		1	
	Screens: Yes No K-Pac Location	TOP SOIL	FROM	TO	1	
	Manufacturer's Name	TAN HARD PAN	1	9	1	
	Type Model No	GREY HARD PAN	9	82		
	DiamSlot size:fromft. toft.	GREY CLAY W/GRAVEL	82	86		
	Gravel/Filter packed: Yes No Size of gravel/sand Materials placed from ft.	GREY SAND/ GRAVEL-CLAY		97	· .	
	Surface Scal: : 22 Yes No To what depth? 18 ft.	GREY SILT	97 9 U	98	1	
	Material used in seul BENTONITE	SAND WOOD SOME WATER	98	104	-	
ļ	Did any stratu contain unusable water?	GREY CLAY	104	106	1	
	Type of water? Depth of strata	GREYSAND W/CLAY	106	119.		
- [Method of scaling strata off	SILTY TANCLAY W/WATER		134		
ĺ	PUMP: Manufucturer's Name	SANDY GRBY CLAY	136	145	i 🐫	
	WATER LEVELS: Land-surface elevation above mean sea levelft.	GREY SAND GREY CLAY	146	148		
4	Statis level 51 168 ft. below top of well Date 4/10/05	GREY SAND	148.	153		
	Artesian pressure lbs. per square inch Date	GREEN CLAY	153	155	7	
L	Artesian water is controlled by	THN SAND STONE	155	156	,	
1	WELL TESTS: Drawdown is amount water level is lowered below static level	GREY SAND STONE	156	380	1	
•	Was a pump test made? Tyes Mo If yes, by whom?	TAN SILT STONE SAND STONE	380	387 384		
ļ	Yield: gal/min, with ft. drawdown after hrs. Yield: gal/min, with ft. drawdown after hrs.	SILT STONE & COAL	384	386	7	
İ	Yield:gat/min, withft. drawdown afterhrs.	SILT STONE	386	440	2	
1	Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)	COAL	410	415	.0	
	Time Water Level Time Water Level Time Water Level	SILT STONE	442	442	~	
		SUT STONE	455	457		
1	Date of test	COAL	457	459		
	Bailer testgal./min, withfi. drawdown afterhrs.	SILT STONE.	459	470		
- 1	Airtest 5 gal/min, with stem set at 500 ft. for hrs.	SAND STONE WIMPTED	470	504		
	Artesián flow g.p.m. Date				•	
	Temperature of water Was a chemical analysis made? 🎁 Yes 🔲 No	Start Date 3-6-05 Completed	Date 4-1	0-05		
W	/ELL CONSTRUCTION CERTIFICATION: I constructed and/or accept	pt responsibility for construction of this well, and	its complian			
W	ashington well construction standards. Materials used and the information		/ l	1437.		
Driller/Engineer/Trainee Name (Print) JOSEPH NUNES Drilling Company AMAND WELL DOILLING						
	Driller/Engineer/Traince Signature Dring Address FO BOX 432 Driller or traince License No. City, State, Zip STANWOOD WA 98292					
_	IFTRAINER Contractor's					
	riller's Licensed No. Registration No CAMAU WO1A 6 R2 Date 4-10-05					

Registration No CAMAL WOIA 6 R2 Date . 4-10-05

Ecology is an Equal Opportunity Employer.

ECY 050-1-20 (Rev 2/03)